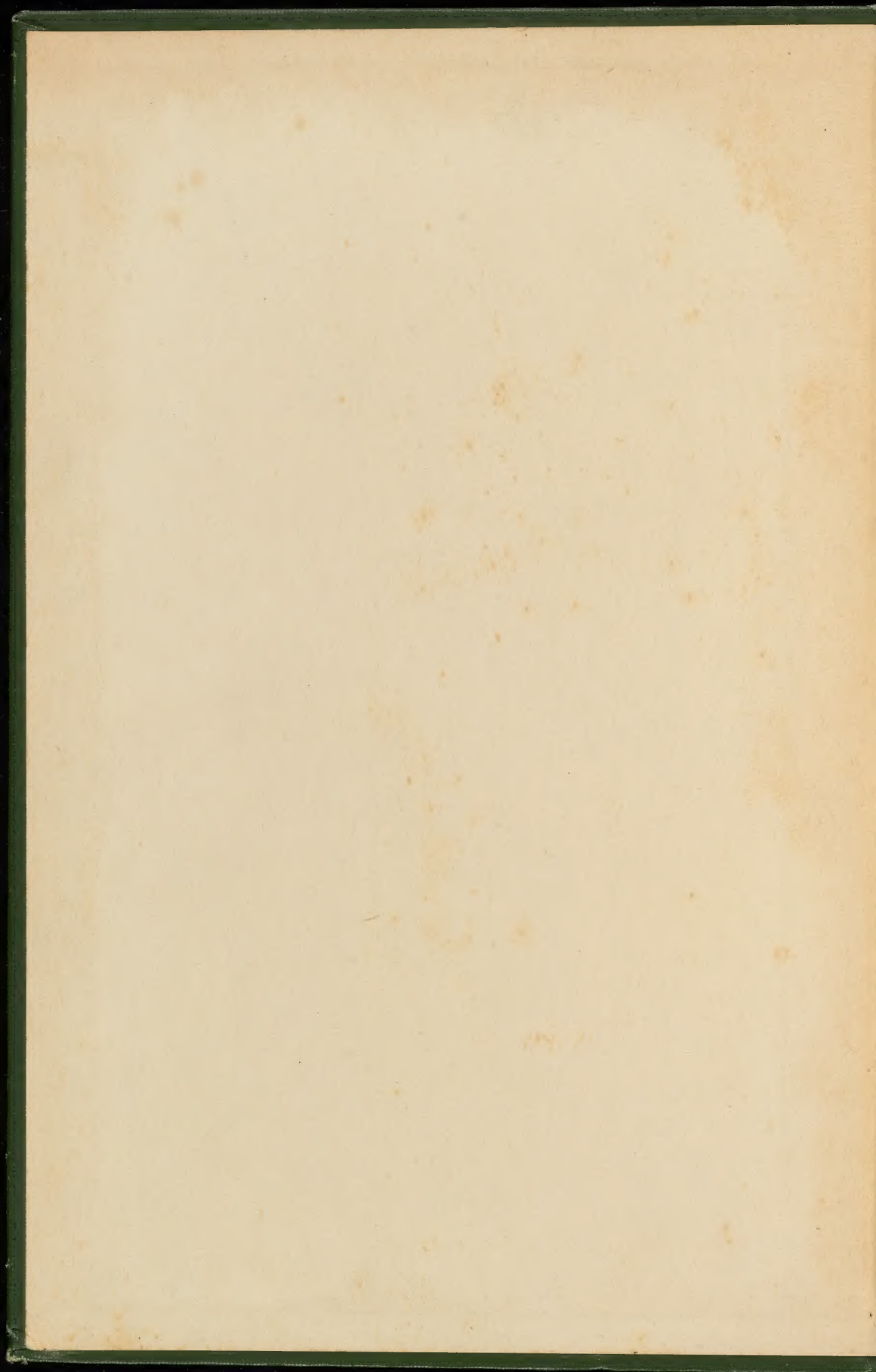


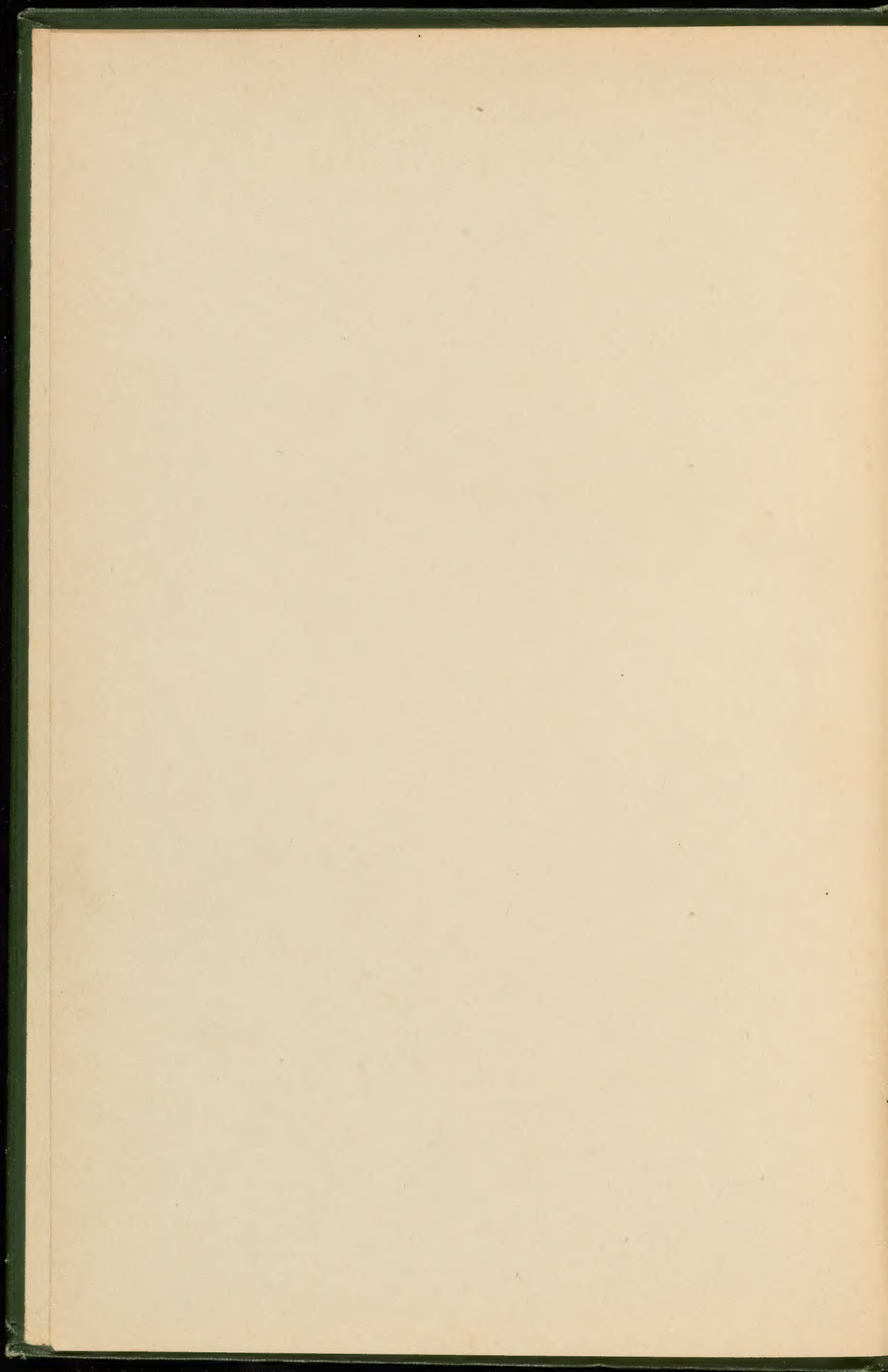
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W B Van Hoesen





# ROMAN CURSIVE WRITING

BY

HENRY BARTLETT VAN HOESEN

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## PREFACE

There are various difficulties inherent in the subject matter of this book. In the first place, Roman Cursive writing is not easy to read; its documents are difficult, sometimes impossible, to find, in their widely scattered places of preservation; facsimile reproductions, where they exist, are full of pitfalls for the inexperienced or unwary. Moreover, in the transcription of alphabets, it has, in general, been necessary on account of exigencies of travel or the dim or fragile condition of facsimiles or original mss., to use the less accurate, free-hand method. Finally, the inaccessibility of some of the literature on the subject has caused to be unrealized the hope of a complete bibliography. Nevertheless practically all the extant material known up to the year 1910 was studied in original, photograph, or facsimile, and with a view to the palaeographical discussion of each document, to the writing of a consecutive, comprehensive history of Roman Cursive writing from its origin to the time of its development into the "National hands" and the Italian notarial scripts, and to the approximate dating of a number of papyri bearing no actual dates. The delay (since 1910) in the publication of the book has added some new material much of which has not as yet become accessible by facsimile or otherwise and, consequently, could only be inserted here without palaeographical discussion.

That the study was undertaken, some eight years ago, was due to the suggestion of Dr. E. C. Richardson of Princeton; that it was continued to its present state is several times due to the continued interest and encouragement of the same teacher. Further instruction gained in the Palaeography classes of Professors Krumbacher and Simonsfeld at Munich should also be mentioned among the indebtednesses; in particular, Professor Simonsfeld first suggested the inaccuracy of the term "Uncial-Cursive." Among the many other professors, librarians, and keepers of manuscripts, whose kindness and courtesy were unfailing, precise acknowledgement is due to those through whose kindness I was able to secure necessary photographs: Dr. Schubart of Berlin, Drs. Boysen



and Mitteis of Leipsic, Sir George Warner of the British Museum, Messrs. Nicholson and Madan of the Bodleian Library, and M. Daressy of Cairo; and to those to whom I have applied for some particular piece of information or advice, Dr. Schubart again, Professor Hunt of Oxford, Mm. Omont and Stein of Paris, Professor Goodspeed of Chicago, and Professors Abbott, Westcott, Magie, Capps, and Prentice of Princeton. Dr. Richardson and Professor Abbott are to be thanked for their performance of the laborious task of the final critical reading. Thanks for assistance in proof reading are due to Mrs. Martha Whittier Olivenbaum of Cleveland.

HENRY BARTLETT VAN HOESSEN.

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January first, 1915.

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## CHAPTER I

### INTRODUCTORY

The beginnings of cursive writing, generally, are to be associated with the introduction of materials softer than stone for writing purposes. Egyptian hieratic writing seems to have been in use as early possibly as the third dynasty.<sup>1</sup> Our earliest Greek papyri afford examples of both cursive and capital writing.<sup>a</sup> Tablets of wood, probably coated with wax and written in more or less cursive characters are mentioned in the early Greek writers.<sup>2</sup>

In Latin, while there are extant no documents written on wax or papyrus earlier than about the beginning of our era, passages from earlier writers prove the use of wax tablets and, probably, of cursive writing. The most famous *locus classicus* in this connection is probably the comments of Plautus's *Pseudolus* on the handwriting of his Master Calidorus's Mistress (Plautus, *Pseudolus*, 23 ff.) :

"Ps. Ut opinor, quaerunt litterae hae sibi liberos;  
Alia aliam scandit. Ca. Ludis me ludo tuo.  
Ps. Hasquidem pol credo, nisi Sibulla legerit,  
Interpretari alium posse neminem.

<sup>1</sup> Möller, G. *Hieratische Paläographie, Die ägyptische Buchschrift in ihrer Entwicklung von der fünften Dynastie bis zur römischen Kaiserzeit*, Bd. I (Leipsic, 1909), p. 1.

<sup>a</sup> E.g. Berlin P. 13,500 of the year 311 B.C. (cp. Schubart, W., *Papyri Graecae Berolinenses* (Bonn, 1911, pl. 2). Cp. Thompson, E. M., *Introduction to Greek and Latin Palaeography* (Oxford, 1912), pp. 105, 149. Thompson adds, p. 105: "The most important lesson which we, as palaeographers, learn from these ancient papyri is, that throughout all periods, as far back as we can reach, we have side by side two classes of Greek writing: the Literary or Bookhand, in which works of literature were usually (but not always) written, and the Cursive hand of every-day life . . ."

<sup>2</sup> Homer, *Il.* 6, 169. Cp. Pollux, *Onomasticon*, 10, 57; Herodotus, 7, 239. Cp. Thompson, pp. 14-15. For representations of tablets on Greek vases of the fifth and fourth centuries B.C. cp. Thompson, p. 15; Gerhard, *Auserlesene Vasenbilder*, 2,239; 4,244, 287, 288, 289, 296.



Ca. Qur inclementer dicis lepidis litteris,  
 Lepidis tabellis, lepida conscriptis manu?  
 Ps. An, opsecro hercle, habent quas gallinae manus?  
 Nam hasquidem gallina scripsit . . ."

The following may also be references to cursive characters:

Plautus, *Bacchides*, 991-2:

"Ni. Eugae litteras minutas. Ch. qui quidem videat parum;  
 Verum qui satis videat, grandes satis sunt."

Cicero, *Epp. ad fam.*, 16, 15: "Accepi tuam epistulam, vacillan-  
 tantibus litterulis . . ."

Suetonius, *Augustus*, 87: "non dividit verba nec ab extrema  
 parte versuum abundantis litteras in alterum transfert,  
 sed ibidem statim subicit circumducitque."<sup>3</sup>

The forms of the letters on Roman cursive monuments of the first century and the slowness of their change in the later times show that the difference between cursive and capital writing, before the beginning of our era, were comparatively slight.

First to be considered of our extant monuments in Latin are the *graffiti* of Pompeii. These, written with a sharp instrument on walls of plaster (harder material than either wax or papyrus) and containing a mixture of capital and cursive characters, presuppose the previous use of the latter on some softer material. Consequently our second source, the wax tablets from Pompeii, while also of the first century, shows further advance in the use of cursive forms.

As our third source the Dacian Wax Tablets should be mentioned since, although dating a century later, they show similarities in writing consequent upon their identity in material. Six similar tablets from Egypt have recently come to light.<sup>4</sup>

<sup>3</sup> Cp. further: Plautus, *Cur.*, 407-408; Cicero, *In Cat.*, 3, 5; Horace, *Serm.*, 2, 5, 51-52; *Ars Poet.*, 399; Ovid, *Am.*, 1, 12; *Met.*, 8, 745; 9, 521, 529, 565, 596, 600; Suetonius, *Cal.*, 41; *Nero*, 17; Seneca, *Epist.*, 15, 3, 2; Pliny, *Epist.*, 3, 5, 17; Martial, *Epigr.*, 14, 7, 208; Thompson, pp. 15-16.

<sup>4</sup> See p. 29. Cp. de Ricci, S., *A Latin deed of manumission (A.D. 221)*, in the collection of the Right Honorable Lord Amherst of Hackney F.S.A., in *Proc. Soc. Bibl. Arch.* May-June, 1904, pp. 145-152, pp. 185-196; de Ricci and Girard, *Textes juridiques Latins inédits découverts en Égypte*, in *Nouv. Rev. hist. de droit* 1906, pp. 447-498.

Had wax, however, been the only or chief material used to receive writing, it is obvious that the history of cursive writing would have been very different. In writing with a stylus upon wax there is a natural tendency to make short, disjointed strokes. And it is only in papyrus manuscripts that we find Roman cursive writing fully developed, with its rapidly continuous strokes, looped letters, and ligatures. With these, consequently, the present study is mainly concerned.

Until a comparatively recent time we have not had at our disposal a sufficient number of Latin papyri to enable us to trace the gradual development of writing upon them. The long interval between the wax tablets and the abundant "Ravenna" Papyri of the fifth, sixth, and seventh centuries had to be bridged as best one could with the aid of a few scattered and often imperfectly known "Christian" inscriptions. In recent years, however, archaeological undertakings have at last added some eighty papyri dating from the first five centuries, which, when compared with our other monuments, should enable us to trace a fairly complete history of the development of Roman cursive writing.<sup>5</sup>

The division of ancient writing into the several hands, the beginning of the science of Palaeography, was made considerably after the Renaissance of classical studies; and had its origin, not in the study of classical literature, the manuscripts of which were more formally written, but in investigations regarding the authenticity of documents. In spite of the various methods of guarding against forgery in Roman times,<sup>6</sup> the increase of ignorance in later Roman times and throughout

<sup>5</sup> Cp. von Hartel, Wilhelm, *Über die griechischen Papyri Erzherzog Rainer* (Vienna, 1886), esp. p. 51; Wilcken, Ulrich, *Die griechischen Papyrusurkunden* (Berlin, 1897); *Id.*, *Der heutige Stand der Papyrusforschung*, in *Neue Jahrb. f. d. Klass. Alt., Gesch., Deutsche Litt. u. f. Paed.* 7 (1901), Abt. 1, pp. 677-691; Mayence, Fernand, *Les papyrus Égyptiens*, in *Le Musée Belge* 5 (1901), pp. 318-333; 6 (1902), pp. 59-71; Prou, Maurice, *Manuel de paléographie Latin et Français* (3d ed. Paris, 1910), pp. 19-20; Kenyon, F. G., *The palaeography of Greek papyri* (Oxford, 1899), pp. 1-8; Van Hoesen, H. B., *Western Reserve Papyri*, in *Western Reserve University Bulletin* vol. 16, no. 1; *Id.*, *Papyrus Studies*, in *Transactions of the Ohio College Association* April 2-3, 1915; Thompson, *Introd.*, pp. 93-101; Mitteis, L. and Wilcken, U., *Grundzüge und Chrestomathie der Papyruskunde*, Bd. 1, Teil 1 (Leipsic, 1912), pp. xvii-xxviii.

<sup>6</sup> Cp. Erman, Henri, *La Falsification des actes dans l'antiquité*, in *Mélanges Nicole*, pp. 111-134.

the middle ages made forgeries less and less difficult. The "propter ignorantiam litterarum signum sanctae crucis" already occurs not infrequently in Ravenna documents, which were written by professional scribes. Once written they were laid away as records, rarely read, readable only by rare expert archivists, and finally forgotten in their places of preservation. There are numbers of instances in the late middle ages of inability to read records or even contemporary documents.<sup>7</sup> Forgeries were, consequently, numerous,<sup>8</sup> especially in grants to churches and monasteries,<sup>9</sup> and, as the tenants of these grants undertook their defense, the "bellum diplomaticum" arose.<sup>9</sup> Daniel van Papenbroeck denied the authenticity of all the older grants in France.<sup>6</sup> But a mighty defender of the

<sup>7</sup> Sandys, J. E., *A History of classical scholarship*, I, p. 454 ff. and *passim*; Marini, *I papiri diplomatici*, p. xxii; *Nouveau traité de diplomatique*, 2, p. 412 ff.

<sup>8</sup> A list containing several of these is found in Giry, A., *Manuel de Diplomatique. Diplomes et chartes. Chronologie technique. Éléments critiques et Parties constitutives de la teneur des chartes. Les chancelleries. Les actes privés.* (Paris, 1894), p. 53 ff. Cp. also Bresslau, Harry, *Urkundenlehre für Deutschland und Italien* (Erster Band, Leipsic, 1889), p. 13, and note.

<sup>9</sup> " . . . es ist unleugbar, dass selbst die hervorragendsten Männer der Kirche, Geistliche deren Frömmigkeit und rechtschaffener Lebenswandel hochgepriesen wird, die sich um ihre Diöcesen und Klöster die namhaftesten Verdienste erworben haben, wie sie Diebstahl und Lüge anwandten um sich in den Besitz verehrter und wunderthätiger Reliquien zu setzen, so zu Fälschung und Betrug ihre Zuflucht nahmen, wenn es galt den Besitzstand, die Rechte, das Ansehen ihrer Kirchen zu mehrern oder zu vertheidigen . . ." Bresslau, *op. cit.*, pp. 11-12.

<sup>9</sup> Giry, *op. cit.*, p. 58 ff.; Bresslau, *op. cit.*, p. 19 ff.; Wattenbach, W., *Das Schriftwesen im Mittelalter* (Leipsic, 1875), pp. 2-16; Baring, Daniel Eberhard, *Clavis diplomaticae accessiones, Introductiones quasdam in rem diplomaticam aliaque ad lectionem et intelligentiam veterum codicum, chartarum, et diplomatum, exhibentes, una cum diplomatario miscello. Danielis Eberhardi Baringii Clavis diplomatica, Specimina veterum scripturarum tradens, Alphabeta nimirum varia, medii aevi compendia scribendi, Notariorum veterum signa perplura, cet. Singula tabulis aeneis expressa, Praemissa est Bibliotheca scriptorum rei Diplomaticae* (2d ed., Hannover, 1754).

<sup>9</sup> *Dan. Papebrochii Propylaeum antiquarium circa veri ac falsi discrimen in vetustis membranis cum figuris, praemissum Tomo II. Actor. Santorum Mensis Aprilis—(1675).* [Reprint in Baring, *op. cit.*] "Caput X, Conclusio huius Materiae, cum Evictione Bullarum aliquarum Romanis Pontificibus suppositarum." "Porro hactenus deducta considerans, et in toto Francorum regno nullam omnino chartam sinceram ac genuinam reperiens ante regnum primi Dagoberti; paucissimas item



"chartae" "in toto Francorum regno" arose in Jean Mabillon who had been called from the monastery of St. Denis to the (1621) reestablished Benedictine community of S. Maurus at the monastery S. Germain des Près and had been placed in charge of the collection and publication of the *Acta Sanctorum Ordinis S. Benedicti*.<sup>10</sup> With much more material, found both at S. Germain des Près and in his travels, than van Papenbroeck had, he was able to achieve a triumph which even van Papenbroeck acknowledged, and to found, in his *De re diplomatica* (1681),<sup>a</sup> the sciences of Palaeography and Diplomatics. His scheme of classification is found in Lib. I, Cap. XII, II: "Romana Vetus," "Gothica," "Langobardica," "Saxonica." After subdividing Roman writing into capital and uncial he adds (§V): "Sed praeter illa duo Romanae scripturae genera videtur aliud tertium in usu, saltem declinante imperio fuisse, nempe minuta scriptura diversae non solum magnitudinis, sed etiam formae ab unciali, qualis erat ea, quae hominum forensium erat. Id facile mihi in animum inducit tum compendiosa scribendi ratio, quam homines sectari solent: tum testamentum Iulii Caesaris, minutis hisce litteris scriptum, an transcriptum, cujus fragmentum Petrus Hamon, Caroli IX. scriba mox laudatus ex corticeo Bibliothecae regiae delineavit, nosque inter specimina nostra referemus." This third class, although based on the single fragment which was later proved to be a forgery of Hamon, was borne out by the Ravenna papyrus in Vienna.<sup>f</sup>

sub illo atque post illum, usque ad secundae stirpis Reges scriptas haberi, quae vel autographae possent, vel ex autographo fideliter desumtae . . ."

<sup>10</sup> Wattenbach, *op. cit.*, p. 13.

<sup>a</sup> . . . "Noch jetzt das Hauptwerk dieser neuen Disciplin, für mero-vingische Urkunden unübertroffen, classisch für alle Zeiten"—Wattenbach, *op. cit.*, p. 15. Cp. Traube, L., *Perrona Scottorum, Ein Beitrag zur Überlieferungsgeschichte und zur Palaeographie des Mittelalters*, in *Sitzungsberichte der philologische philosophische und der historische Classe der KK. Akademie der Wissenschaften zu München* 1900, pp. 469-537, esp. pp. 472-476.

<sup>e</sup> *Ibid.*—"Romana illa obtinuit aureis saeculis apud Romanos & Italos viguitque ad saeculum V. quo tempore cum Gothi Italiam sub jugum suum adduxissent etiam Gothi litteris Romanas aliquantisper vitiarunt. Tum saeculo VI. Langobardis in Italiam effusis, successit Langobardica scriptura ad communem usum, Romana illa sic corrupta in libris describendis aliquamdiu viguit nempe ad saeculum VIII . . ."

<sup>f</sup> *Ibid.*, *ad tab.* LVIII.—"Charta Ravennensis. Jam paene absoluta erat hujusce editio, cum a clarissimo Baluzio accepi Caesareae Bibliothe-

(See no. 84.) Before the publication of his *Supplementum de re diplomatica* (1704), Mabillon was able to prove the forgery of Hamon and, in the course of his travels, to strengthen his doctrine by citing several more papyrus documents<sup>8</sup> and the epitaph of Gaudentia (338 A.D.).<sup>11</sup>

The system of Mabillon found many opponents,<sup>12</sup> none of whom seems to have added anything of interest to the study of Roman cursive, except the transcriptions of more Ravenna papyri, until Scipione Maffei attempted to show that Mabillon's distinctions between the different hands were useless.<sup>13 h</sup>

cae tomum octavum auctore Lambecio in has partes delatum esse, atque in eo referri specimen vetustissimae cujusdam scripturae, quam Lambecius 'Incognitam' existimavit. . . . Quaerat aliquis quoscripturae genere haec chartula scripta sit? Et id quidem haud proclive est definire. Existimem tamen posse appellari Italo-Gothicam veterem usuaem sive forensem, qualis ante Langobardorum in Italiam adventum usitata fuisse videtur, saltem Ravennae, ubi Exarchi degebant. . . ." Some of these Ravenna papyri had already been noticed by certain other students. Thus Alacci (*Leonis Allatii Animadversiones in Antiquitatum Etruscarum Fragmenta ab Inghiramo edita*, Paris, 1640, pp. 66-67): "Tandem etiamsi concedamus quidquid Adversarii praetendunt, Veteres nempe privatis usibus Minusculis, publicis, et ad libros describendos Maiusculis usos fuisse, non inde tamen colligitur, Minusculas illas easdem cum hisce nostris fuisse, sed adeo diversas, ut vix legi sine labore possint. . . . Vidi ipse in papyreis Voluminibus Instrumenta variarum Donationum, ac Privilegiorum descripta, quae modo in Bibliotheca Vaticana servantur, & inter ea unum III. Non. Ianuarij post Consulatum sexies Paulini Iunioris. . . . ac aliud. . . . Anno XV. Heraclij Augusti: necnon fragmentum Epistolae Agnelli. . . . Nec multum ab his neque tempore, neque argumento, neque scriptione exemplum se vidisse. . . . Lucas Holstenius asseverat; quod. . . in characteres nostros transmisit. . . ."

The line forged by Hamon was on the verso of the "Charta plenariae Securitatis" first published by Brisson (*Barnabae Brissonii De formulis et solemnibus Populi Romani verbis libri VIII*, Halle, 1683). Already in 1617, ten of these papyri were transcribed by an anonymous hand. The transcription is preserved in Cod. Vat. 6064: *Antiquissimae scripturae quae in arborum cortice exaratae in Vaticana Bibliotheca asservantur, Sanctissimi Dni Nostri Pauli Quinti Pontificis Maximi iussu exemplatae, Anno Domini MDCXVII*.

<sup>8</sup> "Archivo illius ecclesiae" (i.e. at Ravenna), "tum Veronae apud Moscardum, tum Bononiae in publico archivo. . . ." *op. cit.*, p. 55.

<sup>11</sup> *Ibid.*, pp. 113-114.

<sup>12</sup> Cp. Giry, *op. cit.*, p. 64; Baring, *l.c.*

<sup>13</sup> *Istoria diplomatica che serve d'introduzione all'arte critica in tal materia. Con Raccolta de' documenti non ancor divulgati, che rimangono in papiro Egizio. Appresso per motivi nati dall' istessa opera siegue*

New Christian inscriptions were occasionally discovered and published, among them a few containing cursive forms,<sup>14</sup> These cursive forms were recognized as representing earlier stages of the hand found in the Ravenna documents,<sup>1</sup> Mabil-

*ragionamento sopra gl' Itali primitivi in cui si scuopre l'origine degli Etrusci, e de' Latini. Per Appendice l'Epistola a Cesario illustrata, e Altri monumenti.* Mantua, 1727. Also, *Verona illustrata. Parte prima l'Istoria della Città e insieme dell' antica Venezia dall' origine fino alla venuta in Italia di Carlo Magno*, Verona, 1732.

<sup>14</sup>“O sono accidentali come di grande e piccolo, di grosso e sottile; o consistono in alcune poche lettere solamente ed in qualche tratto, come avvien sempre nelle diverse mani.”—*Verona illustrata*, col. 323. “. . . Col sistema qui proposto di dividere in maiuscolo, minuscolo, e corsivo, tutti si vengono a comprendere i modi d'antico scriver Latino . . .”, *op. cit.*, col. 344. *Cp. Istoria diplomatica*, Bk. 2, p. 113.

<sup>1</sup>Boldetti, Marcantonio, *Osservazioni sopra i cimiterj de' SS. Martiri ed antichi cristiani di Roma; Aggiuntavi la Serie di tutti quelli che sino al presente si sono scoperti e di altri simili, che in varie parti del mondo si trovano: con Alcune riflessioni pratiche sopra il culto delle sagre reliquie*, Rome, 1720; Buonarroti, Filippo, *Osservazioni sopra alcuni frammenti di vasi antichi di vetro ornati di figure trovati ne' cimiterj di Roma all' Altezza reale di Cosimo III. Granduca di Toscana*, Florence, 1716; Fabretti, Raffaello, *Inscriptionum antiquarum explicationes et additamenta*, 1699. Several inscriptions as well as the Ravenna papyri then in the Vatican Library were published by Gori, *Io. Baptistae Donii Patricii Florentini Inscriptiones antiquae nunc primum editae notisque illustratae et XXVI indicibus auctae ab Antonio Francisco Gori . . . Accedunt Deorum arae tabulis aeneis incisae cum observationibus*, Florence, 1721.

<sup>1</sup>“Questa varietà ha potuto specialmente nascere da due cagioni; la prima dalla rozzezza d'alcuni Scultori di Inscrizioni, i quali cominciarono a corrompere il buon carattere Romano con iscolpire alcuna volta delle Lettere guaste, non però sempre per imperizia, od errore, o capricciosamente, ma per adattarsi alla guisa già introdotta dall' uso d'una certa specie di corsivo che sin d'allora dagli Scrittori si praticava per commodità e velocità maggiore nello scrivere comunemente. . . . Questo loro corsivo si venne poi più trasformando, come si vede nella *Charta plenariae securitatis* fatta in Ravenna . . .”—Buonarroti, *op. cit.*, p. 16. David Casley writes, however (*Catalogue of the manuscripts of the King's Library: An Appendix to the Catalogue of the Cottonian Library; Together with an Account of books burnt or damaged by fire. One hundred and fifty specimens of the manner of writing in different ages, from the third to the fifteenth century in copper plates: and Some observations upon mss. in a Preface.* London, 1734, Pref., p. 18): “whereas it's obvious to all who are conversant in books and Inscrizions as old as to Jerome's time, that small letters were not then found out, and that there were no other characters made use of for writing, but Capitals . . .”



lon's system was applied to this increased material by Toustain and Tassin,<sup>15</sup> who not only upheld his divisions against the objections urged by Maffei,<sup>1</sup> but, crying: "Quoi! quatre noms rempliront la nomenclature des écritures latines en usage chez tant de nations, durant trente siècles?," set about a most elaborate division into "Classes," "Divisions," "Subdivisions," "Genres," "Espèces"—almost a thousand of these last.<sup>k</sup> Less detailed was the classification made by Gatterer<sup>16</sup> according to the forms of the letters: "I Maiusculae; 1. Capitals, 2. Unciales; II Minusculae; 1. Solitariae s. minutae, 2. Unitae s. cursivae—a. initials, b. intermediae, c. finales."

Somewhat similarly Carl Traugott Gottlieb Schönemann<sup>17</sup>

<sup>15</sup> *Nouveau traité de diplomatique où l'on examine les fondemens de cet art: on établit des règles sur le discernment des titres; et l'on expose historiquement les caractères des bulles pontificales et des diplomes donnés en chaque siècle: avec Des éclaircissemens sur un nombre considérable de points d'histoire, de chronologie, de littérature, de critique, et de discipline: et La refutation de diverses accusations intentées contre beaucoup d'Archives célèbres, et sur tout contre celles des anciennes églises. Par deux religieux Benedictins de la Congregation di S. Maur.* 6 vols., Paris, 1750-1765. With plates containing examples and comparative tables of alphabets—cp. esp. tab. 22. This work was translated into German—Adelung and Rudolf: *Neues Lehrgebäude der Diplomatik*, 9 vols., Erfurt, 1759-1769.

<sup>1</sup> Nous sommes bien convaincus avec M. Maffei . . . que les Goths d'Italie, les Wisigoths, les Lombards, les Francs, les Anglo-saxons, ont appris des Latins à écrire le latin, que leurs écritures sont per consequent émanées de la romaine. Mais s'enfuit-il que, dans la division des écritures, on doive banir jusqu'aux noms de ces peuples? Pourquoi n'appellerait-on pas franco-gallique, lombardique, saxone, des écritures qui certainement furent à l'usage des Francs établis dans les Gaules, des Lombards, et des Saxons? . . . Pourquoi même ne croiroit-on pas que ces écritures furent plus particulièrement affectées aux peuples, dont elles portent les noms . . ."—*op. cit.*, p. 480.

<sup>k</sup> In Class I, Division II, Genre III, are seven *Espèces* of capitals and cursives mixed; Genre IX, *Espèce* of "un mélange de lettres cursives." In Class II, Division IV, Subdivisions I and II, are "Mélanges de différentes écritures romaines"; Division VI, Subdivision I, a classification of different forms of Roman cursive writing in manuscripts. In Class III, Division I, Subdivision I, is a classification of different forms of the "ancienne romaine" in documents. In all, some fifty classes are the development of Mabillon's simple "Italo-Gothicam veterem usulem sive forensem."

<sup>16</sup> *Ioh. Christophori Gattereri Elementa artis diplomaticae universalis, Volumen prius*, Göttingen, 1765.

<sup>17</sup> *Versuch eines vollständigen Systems der allegemeinen besonders*

makes the general divisions *majuscula* and *minuscula*, calling the subdivisions of the latter "Minuta erecta" and "Minuta cursiva." Maffei's classification was maintained by Angelo Fumagalli.<sup>18</sup> The knowledge of Roman cursive writing up to this time is briefly summed up by Thomas Astle:<sup>19</sup> "Running Hand"—"This kind of writing was in use among the Romans so early as the fourth century, if not sooner . . . but it appears to have been generally current in the eighth century" . . . "The Lombardic running hand may be considered as a branch of the Roman, modelled after that used in the sixth and seventh centuries . . ." (Likewise, he adds, "the Saxon," "Visigothic" and "Merovingian".)

Historical interests meanwhile brought about the collection and publication of almost all the Ravenna documents, together with other papyri, by Gaetano Marini.<sup>20</sup> Marini's work has not yet been superseded. In it the documents are transcribed with a fair degree of accuracy so that the texts, while open to correction in the way of single letters, abbreviations, etc., are almost universally correct. Rarely, however, does he touch upon a point in Palaeography or mention the hand in which a document is written.

More puzzling than the Ravenna papyri, were the "Imperial älteren Diplomantik, Als Handbuch für Archivare und den Geschäftsbrauch, Bd. I, Hamburg, 1801; Bd. II, Leipsic, 1818. (Cp. esp. I, p. 517 ff.

<sup>18</sup> *Delle istituzioni diplomatiche*, Milan, 1802. Esp. Capo 7, pp. 113-138.

<sup>19</sup> *The origin and progress of writing, as well hieroglyphic as elementary, illustrated by engravings taken from marbles, manuscripts and charters, ancient and modern. Also Some account of the origin and progress of printing, 2d ed. with additions* (London, 1803), p. 159.

<sup>20</sup> *I Papiri diplomatici raccolti ed illustrati*, Rome, 1805. With plates. Among Marini's immediate forerunners may be mentioned:—Muratori, Ludovico Antonio, *Antiquitates Italicae medii aevi sive Dissertationes de Moribus, Ritibus, Religione, Regimine, Magistratibus, Legibus, Studiis Literarum, Artibus, Lingua, Militia, Nummis, Principibus, Libertate, Servitute, Foederibus, Aliisque Faciem & Mores Italici Populi referentibus, post declinationem Rom. Imp. ad annum usque MD. Omnia illustrantur et confirmanntur ingenti copia diplomatum et chartarum veterum, Nunc primum ex archivis Italiae depromptarum, Additis etiam Nummis, Chronicis, aliisque Monumentis nunquam antea editis*, Arezzo, 1773-1780; Mittarelli, D. Johannes Benedictus, *Ad Scriptores rerum Italicarum Cl. Muratorii accessiones historicae Faventinae, quarum elenchus ad calcem legitur*, Venice, 1771; Fantuzzi, Marco, *Monumenti Ravennati de' secoli di mezzo per la maggior parte inediti*, 3 vols., Venice, 1801-1803.

Rescript" fragments at Leyden and Paris. That the fragments belonged together was discovered by C. J. C. Reuvens,<sup>21</sup> although he was not even sure that the writing was Latin. The Paris fragments were published in facsimile, but not read, by M. Champollion-Figeac.<sup>22</sup> In 1840 J. F. Massmann published<sup>23</sup> the Dacian wax tablets which had been discovered up to that time, with readings and facsimiles. He likewise succeeded in deciphering the Leyden papyrus fragments. Some doubt was thrown on the authenticity of the tablets by Natalis de Wailly in his review of Massmann's book,<sup>24</sup> owing to the falsity of those written in Greek, their unusual character, and the obscurity of the facts attending their discovery. Other tablets were discovered, however, in 1853 and 1855<sup>25</sup> and the whole number subsequently published by Theodor Mommsen.<sup>26</sup> The Leyden papyrus fragments were republished, joined with the Paris fragments, by de Wailly.<sup>27</sup> The history of Roman cursive writing was carried back another century toward its origin by the discoveries at Pompeii. Excavations had been carried on there, under governmental supervision, from 1748 on, but the various reports of the officials in charge were first published a century later.<sup>28</sup> But even in these records and in published literature regarding Pompeii, the inscriptions men-

<sup>21</sup> *Lettres à M. Letronne, Membre de l'Institut et de la Légion d'Honneur, Inspecteur-général de l'Université de France, etc. Sur les papyrus bilingues et Grecs, et sur quelques autres monuments Gréco-Égyptiens du Musée d'Antiquités de l'Université de Leide*, Leyden, 1830.

<sup>22</sup> *Chartes et manuscrits sur papyrus de la Bibliothèque Royale*, Paris, 1835-1840.

<sup>23</sup> *Libellus aurarius sive Tabulae ceratae et antiquissimae et unicae Romanae in fodina auraria apud Abrudbanyam, oppidulum Transylvanum, nuper repertae quas nunc primus enucleavit, depinxit, edidit J-F-M.*, Leipsic-Leyden, 1840.

<sup>24</sup> In *Journal des Savants* 1841, pp. 555-566.

<sup>25</sup> C. I. L. III, p. 91.

<sup>26</sup> *Instrumenta Dacica in tabulis ceratis conscripta*, in C. I. L. III, 2 (Berlin, 1873), pp. 921-960.

<sup>27</sup> *Mémoire sur des fragments de papyrus écrits en Latin, et déposés au cabinet des antiques de la Bibliothèque Royale, au Musée du Louvre et au Musée des antiquités de la Ville de Leyde*, in *Mémoires de l'Institut Royal de France, Académie des Inscriptions et Belles Lettres* 15, Part 1 (1842), pp. 399-423. With three plates.

<sup>28</sup> Fiorelli, Giuseppe, *Pompeianarum antiquitatum historia quam ex cod. mss. et a schedis diurnisque*, R. Alcubierre, C. Weber, M. Cixia, I. Corcoles, I. Perez-Conde, F. et P. La Vega, R. Amicone, A. Ribau,



tioned were rarely the cursive graffiti,<sup>29</sup> and the first, though perhaps inaccurate, study of these as a branch of palaeography was made by Raphael Garrucci in 1854.<sup>30</sup> His description of the writing is as follows:<sup>31</sup> "L'écriture cursive est à mes yeux celle dont les traits ne sont pas généralement liées ensemble et souvent franchissent les limites du carré où se concentre leur forme régulière; les lettres deviennent ainsi des caractères en quelque sorte nouveaux . . . Tel élément constitutif d'une lettre disparaîtra entièrement; tel autre changera de place, et des traits différents joints à angle droit se produiront par une seule ligne courbe. Voilà à mon avis, ce qui caractérise l'écriture cursive. . ." Using the cursive letters and the orthography of the time of Augustus as criteria for dating, he concludes (p. 32): . . . "le resultat de mes recherches a été cette formule générale que plus les inscriptions sont chargées de lettres cursives plus elles sont récentes." . . . (p. 34.) "Les textes et les caractères obéissent à des lois tellement parallèles qu'il nous est aisé de conclure qu'à telle époque, par exemple au VII<sup>e</sup> siècle de Rome vers les temps de Sylla, les lettres cursives n'étaient pas encore introduites." The thorough study and collection of these monuments was begun by Zangemeister in 1865, and in 1871 was published, in C. I. L. IV, his *Inscriptiones parietariae Pompeianae Herculanenses Stabianae . . . edidit Carolus Zangemeister. Accedunt Vasorum fictilium ex eisdem oppidis erutorum inscriptiones editae a Richardo Schoene*, with 55 plates, reproducing nearly a thousand graffiti.<sup>1</sup>

*N. d'Apuzzo ceteror. Quae in publicis aut privatis bibliothecis servantur nunc primum collegit indicibusque instruxit Ios. Fiorelli, Naples, 1860-1864.*

<sup>29</sup> von Murr, Christoph Gottlieb, *Specimina antiquissima scripturae Graecae tenuioris seu cursivae ante Imp. Titi Vespasiani tempora. Ex inscriptionibus extemporalibus classiariorum Pompeianorum exhibit cum earundem explicatione Ch. Th. de Murr.*, Nuremberg, 1792; Wordsworth, Chr., *Inscriptiones Pompeianae; or, Specimens and facsimiles of ancient inscriptions discovered on the walls of buildings at Pompeii*, London, 1837; Massmann, *op. cit.*; Avellino, Francesco Maria, *Osservazioni sopra alcune iscrizioni e disegni graffiti sulle mura di Pompei*, Naples, 1841; *Museo Borbonico*, Naples, 1824—; *Bullettino dell' Istituto di Corrispondenza archeologica*, Rome, 1829—. Cp. C. I. L. IV, pp. I-VIII.

<sup>30</sup> *Graffiti de Pompei. Inscriptions et gravures tracées au stylet recueillies et interprétées; Second édition*, Paris, 1856.

<sup>31</sup> *Ibid.*, p. 7-8.

<sup>1</sup> The inscriptions discovered since this publication are published by

The greater number of cursive inscriptions are from Pompeii but here and there throughout the *Corpus Inscriptionum Latinarum* may be found inscriptions, generally without reproductions, containing cursive characters;<sup>31a</sup> others, again, in the *Corpus of Christian Inscriptions*.<sup>32</sup>

A better idea of the cursive writing of the first century came with the discovery of 153 fragments of wax tablets in the house of L. Caecilius Jucundus at Pompeii.<sup>33</sup>

Beyond the use of the material so far cited most of our text books on Palaeography have not gone. Several different methods of treatment appear in different sketches of the history of Roman cursive writing. Philip Jaffé made the divisions *old*, *middle*, and *new* cursive,<sup>34</sup> including under *old* the monuments of the first and second centuries, under *middle* the Paris and Leyden "Imperial Rescript" fragments, under *new* the papyrus documents from the fifth century on. At the same time Wilhelm Wattenbach followed the older method in treating of the "Altrömische Cursive" from the first to the thirteenth century,<sup>35</sup> although he distinguishes the *National hands*.<sup>m</sup> Similarly Andrea Gloria.<sup>36</sup> The system of Jaffé was

August Mau in *C. I. L.* IV, *Suppl.* 2. The reproductions are comparatively very few but I have been told that a work is in preparation by one of the Italian officials at Pompeii, which will make use of rubbings and photographs wherever possible. The nearer approach to accuracy of such reproductions makes a work of this sort very desirable.

<sup>31a</sup> E.g. *C. I. L.* III, p. 961, *Tabella Plumbea Traguriensis*; p. 962 ff., *Tegulae Stilo scriptae*; *C. I. L.* VI, 3061, etc.

<sup>32</sup> de Rossi, G. B., *Inscriptiones Christianae Urbis Romae septimo saeculo antiquiores*, vol. I, Rome, 1857-1861. Cp. *Id.*, *Roma Soterranea Cristiana*.

<sup>33</sup> Published by de Petra, G., *Le tavolette cerate di Pompei*, in *Atti della R. Accademia dei Lincei*, ser. 2, vol. 3, part 3, Rome, 1876. Republished, with those later discovered, by Zangemeister in *C. I. L.* IV, *Suppl.* 1.

<sup>34</sup> In a letter of Silvio Andreis to Francesco Bonaini in 1866, which is preserved in the Reale Archivio di Stato, Florence. Cp. Paoli, Cesare, *Programma scolastico di paleografia Latina e di diplomatica. I. Paleografia Latina*, 3rd ed., Florence, 1901, p. 9, note 4.

<sup>35</sup> *Anleitung zur lateinischen Palaeographie*, 4th ed., Leipsic, 1886 (first edition, 1866).

<sup>m</sup> Beside the term *Altrömische Cursive*, existed the term *Majuskelscursive*. Cp. Sickel, Th., *Monumenta graphica medii aevi ex archivis et bibliothecis Imperii Austriaci collecta*, Vienna, 1858; Leist, Friedrich, *Urkundenlehre, Katechismus der Diplomatik, Paläographie, Chronologie und Sphragistik*, Leipsic, 1882.

<sup>36</sup> *Compendio delle lezioni teorico-pratiche di paleografia e diplomatica*, Padua, 1870 (with a separate volume of plates).

followed in Arndt's *Schrifttafeln*.<sup>37</sup> The system of Maffei was revived by Clemente Lupi<sup>38</sup> in slightly modified form, all writing being classed "secondo gli elementi delle lettere: Maiuscola; capitale, onciale: Minuscola; minuscola propria, corsiva." A division of Roman cursive writing into two periods instead of three<sup>39</sup> dropped the term *middle cursive* as misleading.<sup>a</sup> Friedrich Blass<sup>40</sup> and Edward Maunde Thompson<sup>41</sup> have followed Wattenbach's arrangement.

On the question of subdivisions within this period new light has been thrown by the papyri found in Egypt during the last few years. Rumours of big finds aroused interest in this direction as early as 1877 and, within a few years, several papyri found their way into, or formed, European collections.<sup>42</sup>

<sup>37</sup> Arndt, Wilhelm, *Schrifttafeln zur Erlernung der lateinischen Palaeographie* (first edition, 1874), so frequently used in classes for the study of Palaeography.

<sup>38</sup> *Manuale di paleografia delle Carte*, Florence, 1875, esp. p. 101.

<sup>39</sup> Paoli, Cesare, *op. cit.*, ed. 3, pp. 9-10. (Ed. 1 appeared in 1883.) The whole work translated into German by Karl Lohmeyer, *Grundriss zu Vorlesungen ueber lateinische Palaeographie und Urkundenlehre von Cesare Paoli*. I. *Lateinische Palaeographie*. Dritte, stark erweiterte und umgearbeitete Auflage. Aus dem Italienischen uebersetzt, Innsbruck, 1902. Cp. Carini, I., *Sommario di paleografia e diplomatica* (Rome, 1889), p. 45; where with these two classes of Roman cursive are included, as a third, "Nuovo o medioevale," the various "National hands."

<sup>a</sup> . . . "stando tra l'antico e il nuovo, ben potrebbe convenirle la denominazione di media datale dal Jaffé: se non che a me pare che essa rappresenti, più che un momento storico dell' arte generale, una maniera speciale di cancelleria"—*op. cit.*, p. 13.

<sup>40</sup> *Lateinische Palaeographie*, in Müller, Iwan, *Handbuch der klassischen Altertums-Wissenschaft* (1st ed., 1886), 2d ed., Munich, 1892, p. 326.

<sup>41</sup> *Palaeography*, in *Encyclopedia Britannica*, 1885, vol. 18, pp. 143-165 (Translated by Guisepe Fumagalli, *Paleografia di E. M. Thompson, Traduzione dall' Inglese con Aggiunte e Note*, Milan, 1890; now in a third edition, Milan, 1911); *Palaeography*, in the *New Britannica*, 1910-1911, pp. 567-570; *Handbook of Greek and Latin Palaeography*, New York, 1893, pp. 203-217; *Introduction to Greek and Latin Palaeography*, p. 310 ff.; *Palaeography*, in Sandys, J. E., *A Companion to Latin Studies* (Cambridge, 1910), pp. 766-770.

<sup>42</sup> *Papyrus Erzherzog Rainer*, in *Oesterreichische Monatschrift für den Orient* 1884, pp. 95-96, 152; Karabacek, J., *Papyrus Erzherzog Rainer*, *ibid.*, pp. 159-165, 179-186; *Id.*, *Neue Funde*, in *Mittheilungen aus der Sammlung der Papyrus Erzherzog Rainer* 1 (1887), pp. 51-52;



Very few of the papyri were written in Latin—most of these are in the Rainer collection.<sup>o</sup> In 1895 the systematic publication of papyri in the Museum at Berlin began.<sup>43</sup> Most valuable to the student are the photographic reproductions in the publications of Grenfell and Hunt.<sup>44</sup> A brief enumeration

von Hartel, *op. cit.*; Wessely, C., *Die Pariser Papyri des Fundes von El Faijûm*, in *Denkschriften der Wiener Academie, Philologisch-historische klasse* 37 (1882), Abt. 2, pp. 97-256; Magirus, Karl, *Griechische Papyri im ägyptischen Museum in Berlin*, in *Wiener Studien* 8 (1886), pp. 92-108; Wessely, Karl, *Bemerkungen zu den Texten der vorangehenden Abhandlung*, *ibid.*, pp. 109-115; *Id.*, *Bericht über griechische Papyri in Paris und London*, *ibid.*, pp. 175-230; *Id.*, *Griechische Papyri des British Museum*, in *Wiener Studien* 9 (1887), pp. 235-278.

<sup>o</sup> There were thought to be thirty-four. (Cp. Karabacek in *Oest. Monatschr.* 1885, p. 113, p. 138, p. 180; von Hartel, *op. cit.*, p. 51.) Sixteen of these were published by Wessely, C., *Schrifttafeln zur älteren lateinischen Palaeographie*, Leipsic, 1898. To an inquiry whether Wessely, nos. 17-18 were equivalent to the three nos. 519-521 in *Führer durch die Ausstellung* and whether there were any other Latin documents in the collection I received the following answer:

"K. K. Hof-Bibliothek

Wien

Wien, den 21 Januar 1909.

I., Josefsplatz No. 1,  
Euer Wohlgeboren,

Können *sämmtliches* Material, um das Sie fragen, publiziert einsehen in C. Wessely, *Schrifttafeln zur älteren lateinischen Palaeographie*, Leipzig, Avenarius, 1898, folio.

Sonst ist nichts in der Sammlung Lateinisches. Die zwei quitungen des Actuars Sergius sind gegenwärtig in drei fragmenten zerfallen daher 3 Nummern 519-521 *Führer*.

An Herrn Henry B. Van Hoesen derzeit

München Türkenstrasse 30."

<sup>43</sup> *Ägyptische Urkunden aus den königlichen Museen zu Berlin herausgegeben von der Generalverwaltung, Griechische Urkunden*, vols. 1-4, Berlin, 1895-1910.

<sup>44</sup> Grenfell, Bernard P. and Hunt, Arthur S., *Greek papyri, ser. 2, New classical fragments and other Greek and Latin papyri*, Oxford, 1897 (ser. 1, 1896, contains nothing in Latin); *Oxyrhynchus papyri*, Parts I-X, 1898-1914 (Parts VII-IX by Hunt alone), (*Egypt Exploration Fund* publication); Grenfell, Bernard P., Hunt, Arthur S., and Hogarth, David G., *Fayûm towns and their papyri*, London, 1900 (*Egypt Exploration Fund* publication); Grenfell, Bernard P. and Hunt, Arthur S., *The Amherst papyri, Being an account of the Greek papyri in the collection of the Right Hon. Lord Amherst of Hackney, F. S. A., at Didlington Hall, Norfolk. Part II, Classical fragments and documents of the Ptolemaic, Roman, and Byzantine periods*, London, 1901 (Part I, 1900, contains nothing in Latin). Other Latin papyri have been placed in different museums, at Cairo, Geneva, Strassburg,

of Latin papyri published before 1899 was given by Max Ihm, *Lateinische Papyri*, in *Centralblatt für Bibliothekswesen* 16 (1899), pp. 341-357; a list of the papyri recently discovered in Egypt by Wilcken, U., *General-Register der griechischen und lateinischen Papyrusurkunden aus Ägypten*, in *Archiv für Papyrusforschung* 1 (1901), pp. 1-28; and in the later numbers of the same periodical<sup>45</sup> the new discoveries and publications have been recorded.

Lastly, among the Egyptian papyrus finds, should be mentioned six wax tablets of the same provenance, one in the Bodleian Library,<sup>p</sup> (147 A.D.), another in the Amherst collection<sup>46</sup> (interesting especially on account of its date), and four in the Cairo Museum.<sup>q 47</sup>

Nearly all of these new Latin papyri published within the last twenty years date from the first to the fifth century and should by careful study enable us to fill in the gap in the history of Roman cursive between the wax tablets of the second century and the earliest Ravenna papyri, and also to distinguish between the hands of wax tablets and of papyri. The first move in this direction was Wessely's brief *Wie haben die alten Römer geschrieben?* (*Erläuterungen zu den Schrifttafeln zur älteren lateinischen Paläographie*). The uncial letters came into being with the writing of capitals on papyrus; then, "In der Folgezeit werden die Schriftzüge immer mehr verändert durch das Bestreben, die einzelnen Buchstaben zu verbinden; diese Ligaturen bringen die Theile benachbarter Buchstaben in einen zug zusammen, verursachen aber auch, dass ein Buchstabe zerrissen wird; es entsteht so die Cursive."<sup>48</sup>

"Im IV. Jahrh. geht auch eine auffallende Veränderung der Leipsic, etc.; their separate publications will be noted in discussing them.

<sup>45</sup> 2 (1903), 3 (1906), 4 (1908), 5 (1909), 6 (1914). Cp. Mitteis and Wilcken, *Grundzüge*, pp. XXXIV-XXXV, p. 54.

<sup>p</sup> Ms. Lat. class. E 16 (P).

<sup>46</sup> Both published by de Ricci, Seymour, *A Latin deed of manumission* (A.D. 221) in the collection of the Right Hon. Lord Amherst of Hackney, F. S. A., in *Proceedings of the Society of Biblical Archaeology* May-June, 1904, pp. 145-152, 185-196.

<sup>q</sup> Nos. 29807 (147-148 A.D.), 29808 (170 A.D.), 29810 (170 A.D.), 29811 (122 A.D.).

<sup>47</sup> Published by de Ricci and Girard, *Textes juridiques latins inédits découverts en Égypte*, in *Nouv. Rev. Hist. de Droit Franc. et Étr.* 1906, pp. 477-498.

<sup>48</sup> *Op. cit.*, pp. 5-6.

Cursive vor sich. Die einheitliche Reichsorganization brachte römisches Wesen über die weiten Kreise der griechischen Cultur, die römische Schrift formt auch die griechische Cursive zuerst in auffallender Stärke um, . . . Dann nähern sich die beiden ohnehin von der Wurzel verwandten Schriften . . . ; unter dieser wechselseitigen Beeinflussung entwickelt sich unter gleichzeitigen Reflex der Unciale die sog. jüngere römische Cursive . . . ”<sup>49</sup> The writing of the Rescript fragments at Paris and London is “Cursive der kaiserlichen und Regierungserlässe, sog. Kaisercursive.”<sup>50</sup> The influence of Greek upon Roman cursive is very slight even according to Wessely’s statement; and in this study (of Latin papyri almost exclusively), there has appeared practically nothing, perhaps except the letter *a*, which points to an origin other than the earlier Latin writing. The relation of uncial to cursive is further discussed in a review of Wessely’s *Schrifttafeln* by Michael Tangl:<sup>51</sup> “Die Entwicklung der Cursive und ihre wichtige Stellung im älteren lateinischen Schriftwesen tritt jetzt in voller und vielfach neues Licht. Die von älteren Palaeographen aufgebrachte und auch von mir bei der Neubearbeitung der Arndtschen Schrifttafeln<sup>52</sup> mangels besser Bezeichnungen noch beibehaltene Unterscheidung zwischen Maiuskel- und Minuskelcursive muss jetzt angesichts der uns in allen Abstufungen fast lückenlos vorliegenden Entwicklungsreihe als unhaltbar fallen gelassen werden. Auch die ältesten Cursivformen brechen bereits mit der unbedingten Herrschaft des Zweilinienschemas, und auch die jüngsten schalten mit der Zuweisung von Ober-, Mittel- und Unterlängen an die einzelnen Buchstaben noch willkürlich. So leitet die Cursive in ihrer ganzen Entwicklung gleichmässig zur Minuskel hin, ohne selbst bereits Minuskelschrift zu sein. Wohl aber wird sich die Scheidung in ältere römische oder Kapital-Cursive und in jüngere römische oder Uncial-Cursive empfehlen, je nachdem sich die

<sup>49</sup> *Ibid.*, pp. 8-9. Cp. *Id.*, *Über das wechselseitige Verhältnis der griechischen und lateinischen Cursive im IV. Jahrhundert n. C.*, in *Studien zur Palaeographie und Papyruskunde*, Heft I, Leipsic, 1901.

<sup>50</sup> *Schrifttafeln*, no. 22, p. 9.

<sup>51</sup> Wilcken (*A. P.* I, p. 374) objects to “Kaisercursive,” interpreting it as imperial autograph in cursive, not as imperial chancery hand. The term persists, however, in Steffens, *Lat. Pal.*, p. 6, and Prou (p. 71, “cursive impériale”).

<sup>52</sup> *Deutsche Literaturzeitung* 1899, cols. 1791-1795.

<sup>53</sup> 3rd ed., Berlin, 1897-1898.



Schrift von den Grundformen der älteren Kapitale oder jenen der jüngeren Unciale beeinflusst zeigt. Die Weiterbildung fällt in den Ausgang des 3 und den Anfang des 4 Jhs. . . . In neuen Gesichtskreis tritt jetzt auch die Unciale die sich mit ziemlichen Sicherheit als die Schriftreform der Diokletianischen Zeit darstellt . . . Wessely, wer über das Aufkommen der Unciale das Beste schrieb, was darüber bisher bemerkt worden ist, seine eigene Aufführungen dadurch in Frage stellte dass er viel ältere Schriftdenkmäler (nos. 6, 8, 9) ganz mit Unrecht als Uncial bezeichnete während diese neben der reinen Kapitale Ansätze zur Cursive, aber gerade keinen Uncialcharakter aufweisen."

The question whether the line of development here is Capital-Uncial-Cursive or Capital-Cursive-Uncial deserves more study than has yet been devoted to it. Wessely develops the cursive through the uncial, and gives examples of uncials (?) from the early second century. Tangl denies that the examples given are uncials, nevertheless adopts the conclusion that the later cursive was due to uncial influence; uncial writing, he says, was an invention of the time of Diocletian,<sup>53</sup> but it is undeniable that characteristic uncial letters bear a strikingly close resemblance to cursive letters of the second, and even of the first century; and the reasonable supposition seems to be that both uncial and "later" cursive grew directly out of earlier cursive.<sup>54</sup> Another basis for the division has been found by Franz Steffens:<sup>55</sup> "Sie [die jüngere römische Kursivschrift]

<sup>53</sup> The divisions in Tangl's fourth edition of Arndt's *Schrifttafeln* (1904) are as follows (Note to Taf. 1): "(a) Aeltere römische oder Capital-Cursive, . . . (b) Kaisercursive, eine Abart der Capital-Cursive; die frühere Bezeichnung als "mittlere römische Cursive" ist fallen zu lassen". . . (c) Jüngere römische oder Uncial Cursive."

<sup>54</sup> Cp. Prou, p. 62.

<sup>55</sup> Cp. Thompson, *Handbook*, p. 191; Steffens, p. IV; Van Hoesen, *The Origin and Birthdate of the Latin Uncial*, in *Transactions and Proceedings of the American Philological Association* 1912, vol. 43, p. lvii ff.

<sup>56</sup> *Lateinische Paläographie, 125 Tafeln in Lichtdruck mit gegenüberstehender Transkriptionen nebst Erläuterungen und einer systematischen Darstellung der Entwicklung der lateinischen Schrift; Zweite, vermehrte Auflage*, Trier, 1909, esp. pp. IV-VII, (1st ed., Freiburg i. Schw., 1903. Supplement, Trier— Also in French: Coulon, Remi, *Paléographie latine. 125 Facsimilés en phototypie accompagnés de transcriptions et d'explications avec un exposé systématique de l'histoire de l'écriture latine par le Dr. Franz Steffens* . . . Trèves s/m.)

entwickelte sich ganz allmählich aus der älteren Kursive im Verlauf des III. und IV. Jahrhunderts. Es fehlt uns leider bisher an Beispielen, an denen man diese Entwicklung Schritt für Schritt verfolgen könnte; einige Übergangsformen lassen sich jedoch . . . erkennen . . . Die jüngere Kursive hat mit der älteren gemein: 1. die flüchtige Form der Buchstaben, 2. die Neigung zur Verbindung der Buchstaben (Ligaturen), 3. die ungleiche Höhe der Buchstaben. Doch alle diese Eigenthümlichkeiten treten bei ihr in verstärktem Mass auf."

"1. Die Form der Buchstaben zeigt einen sehr leichten, flüchtigen Duktus. Überdies fällt auf, dass die meisten Buchstaben ihre Form stark verändert haben, und dass viele eine grosse Mannigfaltigkeit von Formen zeigen . . ."

"2. Die Ligaturen. Die jüngere zeichnet sich durch zahlreiche, eigenartige Ligaturen aus. Um nämlich eiliger schreiben zu können, verband man die Buchstaben in der mannigfaltigsten Weise . . ."

"3. Die ungleiche Höhe der Buchstaben. Besonders charakteristisch für die jüngere Kursive ist der konsequent durchgeführte Unterschied von kurzen und langen Buchstaben . . . Die jüngere Kursive stellt daher das erste Minuskel Alphabet dar, und man hat sie mit Recht, im Gegensatz zu der Majuskelskursive, Minuskelskursive genannt . . . Kaiserskursive, Eine eigenartige Form der jüngeren Kursive entwickelte sich in der kaiserlichen Kanzlei in Konstantinopel . . ."

"Halbkursive, Die Kursive wurde auch als Buchschrift verwendet, doch in etwas veränderter Gestalt: die Ober- und Unterlängen haben nicht so weit ausführende Striche und die Buchstaben sind kräftiger und stehen enger zusammen; die Oberlängen sind oft mit zwei Strichen gemacht, wie in den Urkunden, allein diese Striche stehen gewöhnlich so enge zusammen, dass sie wie ein einziger kräftiger Strich aussehen. . . . Man kann diese kursive Buchschrift als Halbkursive bezeichnen."

Prou<sup>56</sup> follows this scheme in making two divisions; "Écriture capitale cursive" (shown in documents down to the year 247), and "Écriture minuscule cursive" (appearing first in the year 398); and, outside of these, distinguishing the "cursive impériale" and the literary or "semi" cursive. In this system the two periods were separated by a blank of a century and a half (247-398). Steffens's keen criteria of the "jüngere

<sup>56</sup> *Op. cit.*, p. 50 and pp. 68-72.

Kursive" are extremely useful, though perhaps applying more accurately to the Ravenna papyri than to those of various provenance; but the minuscule alphabet is practically complete as early as the end of the third century, whereas the characteristic ligatures, the looped and folded stems of certain letters, and the "four line scheme" belong to the fifth and sixth centuries. It is hoped that the added material of this discussion will help to bridge the gap between the "ältere" and "jüngere" cursive and demonstrate a development so gradual as to call for no division into periods. The term "Halbkursive," by which one is to understand the cursive used in literary manuscripts, is more useful, as, like the "Kaiserkursive," it has obvious, though few, points of difference from other Roman cursive writing contemporary with it. This division is the more acceptable for the purposes of this discussion as it was found necessary to leave for further study various marginal notes which should be classed here with the manuscripts of Rufinus, St. Avitus, St. Maximus, etc.<sup>†</sup> The period of Roman cursive writing extended, according to Wattenbach, Thompson, and others, into the thirteenth century.<sup>‡</sup> Since, however, cursive writing in the seventh century became so multiform in the "National" and notarial hands,<sup>§</sup> the middle of this century

<sup>†</sup> The writer has also been unable as yet to study thoroughly the peculiar cursive writing of the Latin signatures in Greek documents of the latter part of the period. See appendix I.

<sup>‡</sup> Thompson (*Handbook*, p. 217), after giving a facsimile of the Ambrosian St. Maximus of Turin, closes his discussion with: "For our present purpose we need not follow in this place the further course of Roman cursive writing. It was still used in the legal documents of Italy for some centuries, ever becoming more and more corrupt and complicated and illegible. Facsimiles of documents of the eighth and ninth centuries are given by Fumagalli, by Sickel, in the *Codex Diplomaticus Cavensis*, vol. I, in the *Paleografia artistica di Montecassino*, tav. xxiv, xxxv, and by Silvestre (*Palaeography*, I, pl. 137). The illegible scrawl into which it finally degenerated in notarial instruments was at length suppressed by order of Frederic II, in the year 1220." (Cp. *Introduction to Gr. and Lat. Pal.*, p. 339.)

<sup>§</sup> We find, for example, all the documents mentioned by Thompson published under designations other than *Roman cursive*.<sup>§†</sup>

<sup>§†</sup> Cp. also Russi, Michele, *Paleografia e diplomatica de' documenti delle province Napolitane*, Naples, 1883; Taeggi, D. Oderisio Piscicelli, *Saggio di scrittura notarile per gli studii paleografici. I curiali di Amalfi, Gaeta, Napoli, Sorrento*, Montecassino, 1887; Thompson, *Handbook*, p. 293 ff.; *Introd. to Grk. and Lat. Pal.*, p. 491 ff.; Steffens, pp. VIII-XIII; Prou, p. 78 ff.



seems to be the correct terminus for the use of the term *Roman cursive*.

Thus Roman cursive writing should, for the purposes of this discussion, be understood, on the one hand, to include, arbitrarily, the writing of the early centuries which is intermediate between capital and properly cursive writing, and, on the other hand, to exclude, arbitrarily, all writing later than the seventh century as well as the "literary" cursive and "National hands" as found in some manuscripts before that terminus.

The monuments of Roman cursive are discussed below, generally in chronological order; inscriptions (so far as dealt with) and wax tablets, collectively, papyri, singly. Economy in publication has prevented reproducing separately the alphabet of every papyrus; instead, each table will be found to contain letters typical of several dated papyri which fall into a more or less convenient group. The alphabets of undated papyri will be given individually. Forms found in ligature are marked, in the tables, by parentheses. At the close will be given a brief sketch of the development of each letter within the period.

## CHAPTER II

### GRAFFITI AND TABLETS

#### 1. *The Pompeian Graffiti*

The Pompeian wall inscriptions include probably our earliest cursive characters. Although comparatively few of these can be dated before 63 A.D., their cursive characters are doubtless representative of cursive writing on wax or papyrus of somewhat earlier times.<sup>a</sup> The assertion of Garrucci that cursive writing was unknown before the Augustan period is contradicted by the evidence of one or two accurately dated inscriptions of earlier time.<sup>b</sup>

Supposing, however, these few accurately dated inscriptions to be sufficient basis from which to draw conclusions, Garrucci's canon "plus les inscriptions sont chargées de lettres cursives plus elles sont récentes" will be found supportable. In general, the first glance at these wall inscriptions shows their writing to be a rough imitation of capital characters, the more difficult of which are gradually replaced by cursive letters and strokes. And the latter show plainly their origin in capital letters, the cursive element being often merely a flourish or curved finishing stroke.

The abbreviations and the punctuation are similar to those common in inscriptions.<sup>58</sup>

The ligatures of two or more letters are formed, similarly

<sup>a</sup> Cp. Thompson, *Handbook*, p. 204; *Introd. to Grk. and Lat. Pal.*, p. 313: "It is probable that the wall-scribblings of Pompeii essentially represent the style of writing which had been followed for some two or three centuries before their actual date; for in the other direction, the difference between the style of the Dacian tablets and that of the Pompeian period although they are separated by a long interval, is not so marked as might have been expected."

<sup>b</sup> *E.g.* note the cursive tendency of the letters *a*, *b*, *o*, *s* in C. I. L. IV, 1842 and tab. 24, 7 (79 B.C.). Cp. also C. I. L. IV, 1849a (49-44 B.C.), 2437 (37 B.C.), 2450 (4 B.C.), 5214 (15 A.D.), 1552 (17 A.D.), 1885 (18 A.D.), 1555 (29 A.D.), 4966-4973 ("second style" period of Pompeian wall decoration).

<sup>58</sup> Cp. C. I. L. IV, pp. 264-265.

to those in capitals, not so often by linking the final stroke of one letter with the initial stroke of the following letter as by combining these two in one. (See examples in table A—*ae, am, na, ua, nt, ph, um*; linked and more cursive, *eo, er, re, cr.*)<sup>59</sup>

A, sometimes capital in form, generally shows a cursive tendency, chiefly in the treatment of its transverse. This stands in its original horizontal position, attached or unattached to the legs (1842, 1849a),<sup>60</sup> becomes a vertical or oblique pendant (2450, 4966 ff., 1555), is represented by a backward curve of the second leg (4966 ff., 2067), or is omitted entirely (4966 ff.).

B, in its two-bowed capital form, was not adapted to rapid writing and hence was one of the first letters to develop cursive forms. The bows become separated from the stem (1842), are made separately from each other (1569), or slurred together in a long irregular curve (4966 ff., 1552) sometimes turned away from the base of the stem (4966 ff.). This curve is then the chief part of the letter and the stem is shortened, and transformed into a short curve attached to or running parallel to the lower part (2059). Thus the upper bow disappears. A further transformation joins this transformed stem in a continuous stroke with the upper part of the long curve, giving again a long, this time, curved stem, and the lower bow represented by a short line at the right (1747, 2288). From the persistence of these two forms arose the later confusion of the forms having the bow to the right and those having the bow to the left of the stem.

C shows, beside its capital form, a more compressed, less round curve (1842, 1849a, 2437); its more cursive forms extend the curve upward, less often downward, in a finishing flourish (5214, 1284). Less commonly the letter is broken up into two strokes (1555, 2178, 2310g).

D develops somewhat like *b*. The bow is disconnected from the stem (1842), slurred to an irregular curve, while the stem is shortened (4966 ff.) and curved until it represents the bow and the long curve becomes the stem (5214, 1712, 2059). The two are then combined in a single-stroke, quasi uncial form (1465, 1748).

<sup>59</sup> Cp. C. I. L. IV, p. 265.

<sup>60</sup> Numbers refer to C. I. L. vol. IV. So far as possible only the earlier dated inscriptions are cited.



E shows two forms, one of which, the old Latin and Faliscan 11<sup>61</sup> may be either of epigraphic origin or imitated from the forms found in wax tablets (see below) (4966 ff., 1468a, 1772, etc.); while the other, used also in papyrus writing, presents here the transitions from capital to cursive and to uncial writing: the base or cap is made continuous with the back (1849a, 1691), often terminating in flourishes (1653, 1262). From the joining, in a single stroke, of the cap, back, and base, results the quasi uncial form (2460, 1208).

F, like *e*, has, beside a two-parallel-stroke form (4966 ff., 4182, 2517), a development of the square capital form, with stem and cap joined in a single curve (2178), although roughly made square capitals are most common (5214).

G more rarely than *c* extends its curve upward (1975). The cursive tendency is most marked in the treatment of the transverse; which is sometimes omitted (2437), flourished (2059), made independently of the curve (4966 ff., 2066, 2437, 5214), made continuous upon the curve, to the left (1816), to the right (1876), or, becoming a tail, below (1972, 1320).

H begins its development toward a minuscule form by curving (4966 ff.), by shortening the second stem (4966 ff., 1936). Its general appearance is more or less angular but curved strokes are not infrequent (2060, 1465).

I shows already a great variety of forms: long or short, above or below the line; straight (1842), curved to the right or left (2059); hooked at either top or base and on either side (1275, 4966 ff., 1398, 1481, etc.).

K throughout our sketch, in its comparatively rare occurrences, shows little change. In a few instances only is it anything other than the capital letter written hastily; the sides of its angle are sometimes shorter than in the regular capital, and the angle itself is not always joined to the stem (1552, 1560). The angle has become a curve in (2310g).

L, like *e* and *f*, is sometimes made with two disconnected strokes (4966 ff.). In other forms the stem is bent or hooked backwards (2080, 1747); the base is, variously, a straight line at an angle with the stem (1842, 1934-5) or a curve continuous upon the stem (1552, 1600, 1468a), rarely with a tie (1326).

<sup>61</sup> Cp. Taylor, Isaac, *The Alphabet. An Account of the Origin and Development of Letters*, vol. 2, London, 1883, p. 126.

M, similarly, has a form made up of four disconnected strokes, the first of which is longer than the others (4966 ff., 1597, 2059). Its capital form gets a disconnected appearance by extending its various lines beyond their meeting points (2450). In other forms some of the angles are slightly rounded (1645).

N appears rarely in the disconnected form (1312). The capital form is regular (4966 ff.); the stems and transverse occasionally have flourishes (1245, 1463, 1552); the transverse does not universally meet the extremities of the stems (1824, 2373).

O is written as an imperfect or incomplete circle or oval (1842, 2060). Very frequent are two-stroke forms (2437, 4966 ff.); which, when written rapidly, result in two nearly parallel curves (4966 ff.).

P. The stem of *p* becomes curved or hooked at base and its bow is opened (2103), so far as finally to become a straight line or even a curve upward (1655, 2450, 4966 ff., 2379, 2059).

Q, like *o*, becomes first an imperfect or incomplete circle, while the tail is prolonged below to the right (4966 ff.). Then the circle becomes a bow, generally open, at the left of the head of the tail (4966 ff.)—then joined with it in a single-stroke form (2069, 1607).

R. The changes of *r* are quite similar to those of *b* and *d*; the bow and tail are slurred in an irregular curve which overtops the shortened stem (1849a, 4966 ff., 5214). The stem often has a curve or finishing hook (1266, 1536).

S becomes easier for the stilus or pen by the simplification of its double curve into a narrower curve (1842, 2450, 4966 ff.), or into an oblique stem capped by a horizontal or an oblique line (4966 ff., 1251, 1661, 5214).

T occurs with perfectly straight stem and cap (1842). More cursive forms have both these members curved or hooked (2450, 4966 ff., 2437, 1552, 5214).

U is often made with two strokes (1842, 2437), sometimes easily confused with similar forms of *e* (4966 ff., 1234), or in a single, often flourished, angle or curve (4966 ff., 1972, 1760).

X, which changes little in the period under discussion, shows here the cursive influence in the curving and finishing of one or both crossarms (2450, 1354, 3872).

Y. The stem of *y* is made in a stroke with either side of

the angle (1265a, 1213). Flourishes occur (2060, 2083). A minuscule form is found in (1664).

Z is rare even in its capital form, with slightly curved members (2425).

## 2. Lead Tablets

Lead, as a writing material, was a trifle more adapted to cursive writing than stone or plaster walls; hence inscriptions on lead perhaps deserve a separate treatment. As in the case of other inscriptions, only those of dates antecedent to or contemporary with our earliest monuments (first century B.C. to first century A.D.) in wax and papyrus are necessary in this discussion. The material in this field has been collected by W. S. Fox in connection with his edition of some new "Tabellae defixionum."<sup>6</sup>

Ligatures are almost entirely wanting (cp. *er* in Johns Hopkins tablet *Plotius*, line 11).

A shows cursive tendency in the irregular indication or the omission of the transverse. One form, with left leg hooked inward at base, is almost an uncial; another, with left leg hooked outward and upward at base, almost the open minuscule letter (tab. B, col. 2; Johns Hopkins tablets).

B shows capital and early cursive forms; in the latter the stem is generally curved or hooked right at top, the hook probably representing the lower part of the upper bow of the capital letter, but without the finishing hook at the left.<sup>61a</sup>

C is generally compressed laterally, often angular instead of round at back, base, or shoulder. There seem to be no two-stroke forms, although this may be due merely to chance (cp. *g*).

D has the bow disconnected from the stem of the capital letter, now at top, now at bottom; the base of the bow is often written with the stem and apart from the rest of the bow; the bow, then, sometimes hooks outward, to the right (tab. B, col. 2). In only a few forms has this combination of stem and lower side of bow been reduced to the short curve (tab.

<sup>6</sup> *The Johns Hopkins Tabellae defixionum*. Supplement to the *American Journal of Philology* 33, 1, no. 129. The table here given (table B) and the following remarks are based on Fox's tables and that of Ritschl, *Priscae Latinitatis monumenta epigraphica*, XVII, 30 (cp. C. I. L. I, 818; VI, 140). Fox, *l.c.*, plate VIII.

<sup>61a</sup> Cp. Fox, *op. cit.*, p. 52.



B, col. 2) which develops into the bow of the cursive and minuscule *d*.

E and F show, uniformly, the two-disconnected-stroke forms also characteristic of wax tablets.

G has transverse or tail in the various positions noted in the graffiti; one form (tab. B, col. 2) shows separate cap stroke.

H has stems of varying length; the shorter stem is generally the second.

I here shows a somewhat simpler variety of curves and hooks than in the graffiti.

K does not occur.

L varies from the square capital to the simpler cursive single or two-stroke forms, with occasional curves but with no finishing hooks or flourishes.

M exemplifies various transition forms between the angular capital and the four disconnected strokes of the characteristic wax-tablet letter.

N shows cursive tendency only in the occasional shortening of second stem and in the varying position of the transverse upon the second stem (cp. the second and fifth forms in tab. B, col. 2).

O is regularly written with two strokes, the second of which is often straight but only occasionally outward curving (last form, tab. B, col. 2).

P has bow replaced by short downward curve or straight line; the stem is straight or slightly hooked at base.

Q has its curve written with two strokes; the tail is sometimes made with a third stroke but is generally joined at an angle to right half of curve (tab. B, col. 1, first form) or slurred with it in a line curving right or, less often, left.

R shows the various degrees of slurring of bow and tail.

S is laterally compressed, sometimes to a mere straight line; sometimes it is a broken line instead of a double curve.

T has occasional curves and hooks.

U is often broken up into two strokes; when these both hook right at base, the letter resembles the minuscule letter.

X shows slight curves.

Y is an angular two-stroke letter.

Z is wanting.

In general, while the letter forms closely resemble those of the earliest dated graffiti, they also resemble those of the

Pompeian wax tablets and papyri of the first century so that it is a doubtful question how far the palaeography of these tablets may be used as corroborative of a dating in the first century B.C. as against the first century A.D. In the Johns Hopkins tablets, while *b* gives support to the earlier date, the peculiar forms of *a*, the cap stroke of *g*, the slurred transverse of *n*, and the straight or left-curving tail of *q* seem more characteristic of the later.

### 3. *The Pompeian Wax Tablets*

Our oldest wax tablets are those discovered at Pompeii. Of the 155 published by Zangemeister in the Supplement to C.I.L. IV, the first is dated 15 A.D., the second, 27 A.D., while the rest are all to be placed between the years 52 and 62 A.D.<sup>62</sup>

The letters are generally the more cursive forms noted in the graffiti but, written much more smoothly and easily on the softer material and rarely intermixed with more nearly capital forms, present an appearance somewhat in contrast to them. The scarcity of ligatures makes the reading fairly easy once the pages have been reproduced in facsimile.<sup>63</sup>

Abbreviations are few and simple, as those in inscriptions.

A consists regularly of two strokes converging at the top, the right one often overtopping the left<sup>a</sup> (1, 2, 9, 143, 151); the transverse of the capital letter (25) is represented sometimes by a short pendant (26, 58), often by a hook at the end of one of the legs (2, 26); the open two-stroke letter (141) closely approaches the later minuscule.

B has regularly the two-stroke cursive form, with bow to the left of the stem, noted in the graffiti (1, 5). Occasional forms are ruder and more nearly capital (33, 28), and a few show the single-stroke letter with bow to the right or left of the stem (26, 31).

C is regularly narrow (1), extending upward or downward with more or less flourish (7, 23, 24, 143). Small letters are less common (2, 40). A few forms have a separate cap stroke in place of the upper part of the curve, or a straight line for the lower part (23, 49).

<sup>62</sup> C. I. L. IV, Suppl., p. 277.

<sup>63</sup> On the difficulties of this cp. C. I. L. IV, Suppl., pp. 275, 279.

<sup>a</sup> See table C. The numbers are those of Zangemeister in C.I.L. IV, Suppl.

D is made with two strokes, the second being the longer (1, 6). These forms are often distinguishable from *b* by the hook toward the right at the top of the stem, while the stem of *b* bends left. Single-stroke forms are not infrequent (5, 20, 25).

E appears most often in the two-straight-stroke form characteristic in wax tablets (1), but the rounded capital letter is very frequent (2, 4).

F, similarly, shows articulated and disjointed forms (2, 5, 1, 26). The second stroke of the latter form also appears as a horizontal (28, 141).

G. The transverse of *g* rarely appears in its old horizontal position (25). It is very often made with a second stroke, disconnected from the curve (6, 22, 26, 30); and becomes a tail in single-stroke forms (1, 40), sometimes tied to the curve (141). Flourishes are rare (141, 174).

H has rarely the longer second stem (1, 19). The regular cursive form is generally less angular than in inscriptions (6, 7, 22).

I has the various forms noted in the graffiti (1, 2, 3, 7, 25, etc.).

K has sometimes a curved stem, and a curve in place of the angle (1, 10, 29).

L appears as in the graffiti; quasi capital (33), disjointed (1), curved and hooked (1, 2, 21, 22), extending below the line (21), etc.

M in its characteristic form has the four parallel strokes (1), which are sometimes joined with one another (46, 49). The capital (2) is slurred to a form similar to *n* (2).

N offers no sure parallel to the four-stroke *m* (cp. 19?, 43?). The general form is a variation of the capital (1), with the transverse in nearly or quite horizontal position (5, 7, 26), and, approaching the minuscule, with the first stem higher than the second (2); once with a tie between the first stem and the transverse (28).

O almost universally consists of two separate curves, convex (1) or concave (1). The second curve is added to the first with a tie in a single stroke in (29).

P curves its stem to the right in a finishing hook (1) and has its bow open (28), or, regularly, in the form of a straight line (1, 5, 17).

Q. The head of *q* is in one or two curves (1, 5), open (17)



or closed (5), or a single oblique (5); and the tail is prolonged downward to the right (1, 5, 10, 17, 32, etc.).

R rarely approaches a capital in form (25, 145); its regular form is an oblique or curved stem topped by a cap curved downward to represent the bows of the capital letter (1).

S, as in the graffiti, is the narrow double curve (1, 22, 23), or the oblique or curved stem with separate cap stroke (1, 25, 145).

T. The lines of *t* are generally slightly curved (1, 5, 10, 34, etc.).

U occurs occasionally in the single-stroke curve (7, 24), but regularly in the two-stroke form (1). In a character very like our minuscule the two strokes sometimes meet (26, 29), rarely are tied (58, 143) at base.

X shows slight curves as in the graffiti (1, 2, 29, etc.).

Y is sometimes more curved than in the graffiti (7, 14, 25, 31, 82, etc.).

Z has an elaborate curved cap in one form (43).

#### 4. *The Dacian and Egyptian Wax Tablets*<sup>64</sup>

Several of the tablets bear dates. The earliest, C.I.L. no. 17, dates from the year 131, no. 6 from 139, no. 7 from 142.<sup>65</sup> The other dates range from 159-167 A.D. The letters are in general similar to those in our second century papyri, while certain different forms recall the characteristic letters of the first century wax tablets. At the first glance of comparison, however, between the wax tablets of the first and those of the second century, one is struck with the greater difficulty of reading the latter because of the closer crowding and frequent linking of the letters.

The following ligatures are to be noted: *a* with *b, c, d, e, l, m, n, p, q, r, x*; *b* with *a, e, i, m, r, u*; *c* with *a, c, e, i, n, o, r*; *d* with *a, i, o, r*; *e* with *a, b, d, m, n, o, r, t*; *f* with *a, e, i, l*,

<sup>64</sup> For the places and times of discovery, the descriptions, etc., cp. C. I. L. III, 2, pp. 921-960, 1058, tab. A; Suppl. II, 4-5, p. 2215 (with many facsimiles and a table showing the forms of the letters).

<sup>65</sup> Here should be considered also Bodl. Ms. Lat. Class. E 16 (P), a wax tablet of 147 A.D. Published by de Ricci in *Proceedings Soc. Bib. Arch.* 26 (1904), pp. 195-196 (with facsimile). Cp. also four tablets, now in Cairo, published by de Ricci and Girard in *Nouv. Rev. hist. de droit* 1906, pp. 447-498. Cp. Wilcken, in A. P. 2, p. 252; 3, p. 309; 4, pp. 252, 267; Mitteis and Wilcken, *Grundzüge*, I, ii, nos. 212, 457; *ibid.*, II, ii, nos. 327, 362.

*p, r, u*; *g* with *a, e, i, n, o*,<sup>t</sup> *r*; *h* with *a, e, o*; *i* with *a, b, d, e, m, n, o, r*; *k* with *a*; *l* with *a, b*; *m* with *a, i, n, p, u*; *n* with *a, i*; *o* with *b, m, n, q, r, s, u*; *p* with *a, e, i, l, o, r, s*; *r* with *a, i, o, r, u*; *t* with *a, e, i, o, q, r, u*; *u* with *a, i, m, r, s*<sup>t</sup>; *x* with *a*.

A rarely has the transverse; occasionally it is indicated by a pendant or a hook on the second leg. The form with long upward finishing hook of the first leg suggests the open minuscule.

B, except in one tablet (7), has the bow at the left of the stem and is generally to be distinguished from *d* by hook left at top.

C is regular, except the occasional broken-back form.

D has, regularly, the two-stroke form, once, in a numeral, the single-stroke uncial form.

E is generally the letter of the Pompeian wax tablets. Quasi capital and uncial forms are infrequent.

F has both cursive and capital forms; some forms have the two parallel strokes as in the Pompeian tablets.

G has the tail in various positions; regularly it seems to form a double curve with the curve. The flat cap stroke is very frequent but far from universal.

H has an angular outline.

I shows every variety in the position of the finishing hooks. The bowed form is peculiar.

K has generally the curved or hooked stem and more or less rounded angle.

L tends to round the angle and form a single curved stroke running below the line. The two-stroke, rather flourished forms are exceptional.

M now resembles the angular capital, now the Pompeian letter with its short strokes (here, however, there are three instead of four), and again, when the short strokes are linked, a quasi minuscule form.

N generally has the capital form with variously placed transverse. In a few forms this joins the second stem in a curve depending from the top of the first stem, giving a quasi minuscule form.

O shows a great variety of carelessly made forms. The two-stroke letter of the Pompeian tablets is regular.

P has the single and two-stroke forms frequent in the second century papyri.

<sup>t</sup> Ligature in the tablet in the Bodleian library.

Q has tail either to right or to left.

R shows the regular cursive form beside the rarer capital and the single-stroke cursive letter.

S is generally the narrowed double-curve letter. Separate cap strokes are occasional. One form is looped in ligature.

T has generally the hooked stem and the straight or slightly curved cap stroke.

U shows the single-stroke and the two-stroke form, the latter sometimes closely resembling the minuscule.

X occurs with both curved and straight arms. Unusual are the ligatures with a following letter.

Y does not occur.

Z has more or less rounded angles.



### CHAPTER III.

#### OSTRAKA AND PAPYRI

##### 1. Würzburg?<sup>a</sup>

"Ein bilingues Ostrakon, das ich in Ägypten erwarb, aus derselbe Zeit wie dieser Brief" [i.e. Wess., no. 1] "stammend (19 Juni 18 v. Chr.) zeigt in seiner lateinischen Unterschrift—vielleicht der ältesten genau datierten lateinischen Hs.!—wiederum völlig andere Formen."<sup>1</sup> "Die subskription lautet *acc.* (= *accepi*) *art[abas] frum[enti . . . ]*." Mentioned by Wilcken, in *A.P.* 1 (1901), p. 372 and footnote 2.

##### 2. Vienna, Hofbibliothek, Sammlung Rainer.<sup>2</sup>

Fragments of three letters from a series, fastened together in a roll. Of the first nothing is legible, the other two are both addressed to a certain *Macedo*. Following these is a column of accounts in Greek. Maximum measurement 24 x 75 cm. The remnant of the first letter is 10 cm. wide, that of the second, which is written in two columns each 10 cm. wide, is 26 cm. wide, that of the third 25 cm. wide, its single column measuring 15 cm. wide. The verso contains some demotic writing. Published: Wessely, *Schrifttafeln*, no. 1 (with facsimile of the Latin writing in tab. 1). Cp. Ihm, in *Centralbl. f. Bibliothekswesen* 1899, p. 343, no. 3; Tangl, in *Deutsche Litt.-Zeitung* 1899, col. 1795; Wilcken, in *A. P.* 1, p. 372.

The two letters, addressed to the same person and so of approximately the same date, differ somewhat in general appearance, according to the facsimile. The first document, while its letters are not radically different from those of the second, lacks most of the flourishes and ligatures more frequent in the latter. Ligatures in the first document: *pl* and *tr*; in the second: *a* with *l*, *u*; *c* with *o*; *e* with *r*; *m* with *e*; *n* with *t*; *p* with *l*; *r* with *e*, *i*; *t* with *e*, *i*.

<sup>a</sup> An inquiry addressed to Prof. Wilcken failed to bring me into communication with him.

<sup>1</sup> Wilcken, *l.c.*

<sup>2</sup> Description from Wessely's *Schrifttafeln*.

The only abbreviations are *k(alendas)*, *August(as)*. In both pieces the words are generally separated by the point in the middle of the line, as frequently in inscriptions.

A (tab. I, cols. I-II) resembles closely the *a* of the graffiti; the transverse in various positions except the horizontal, represented by a backward curve of second leg, or wanting. The legs have curves or finials; and the second leg is linked to following letter by angle or curve.

B (tab. I, cols. I-8) shows the more cursive forms of the graffiti and wax tablets.

C (tab. I, cols. I-10) shows a tendency to break up the curve into two strokes, the cap stroke being more or less horizontal, as occasionally in the graffiti and wax tablets; slight flourishes are occasional. *C* is joined with following letter by prolonging upper part of the curve, or cap.

D (tab. I, cols. I-7) has both the capital-letter form, with bow prolonged above, through which the uncial doubtless arose (cp. cols. I-5), and the two-stroke form with open or closed bow at the left (cols. 6-7).

E (tab. I, cols. I-10) shows, beside the various irregular capitals transitional to cursive and uncial *e*, other forms (cols. 5, 8, 9) surprisingly like the later broken-back cursive letter. Ligature with preceding or following letter is through arm (cols. I, 7, 10). There is no example, either in this or in other papyri, of the characteristic wax tablet *e*; col. 8, it is true, somewhat resembles it but is more clearly than it the result of uniting cap and arm in one stroke.

F (tab. I, cols. I-4) is generally the angular capital, with occasional cursive prolongations and curves.

G (tab. I, cols. I-5) has its transverse continuous upon the curve either in a broken line or returning upon the curve, as in the more advanced tail forms noticed in the graffiti and waxes.

H (tab. I, cols. I-4) is still close to the capital letter; the stems are often curved and hooked but generally stand higher than the transverse.

I (tab. I, cols. I-II) shows the various forms possible—with stem straight, curved, double-curved, or hooked at either end; there is a suggestion of the later cursive looped letters in the closing of the upper hook to a bow (col. 6). In piece 2, there are longer curved letters going above and below the

line, finished with round or angular hooks (cols. 7-11). The hook left at top links to preceding letter.

K (tab. I, col. 1) has its stem curved and hooked, and one side of the angle curved.

L (tab. I, cols. 1-7) is square, angular, or curved and hooked, as in the graffiti and waxes, but is regularly written in a single stroke; it is linked to preceding letter by a hook or tie at top of stem.

M (tab. I, cols. 1-8) is, variously, the angular capital, the disjointed wax-tablet letter, or, where the angles are rounded (cols. 4, 5), a suggestion of the uncial and minuscule; the first stem may link with preceding letter (col. 8), the last with following (col. 7).

N (tab. I, cols. 1-6) shows only slight cursive tendency, in the curving of a stroke, the rounding of an angle, or the irregularity in the position of transverse; the second stem is hooked to link with following letter (col. 6).

O (tab. I, cols. 1-12) has the various round or oval forms already noted; most common are the single-stroke curves, open at top, bottom, or sides, and sometimes prolonged in a tangent running straight or obliquely upward.

P (tab. I, cols. 1-4) has, regularly, stem curved and hooked at right of base; the bow is indicated by the arm or open curve, which may link with following letter (col. 4).

Q (tab. I, cols. 1-6) has already a quite cursive form; the circle has been reduced to a small circle or curve open above or beneath; and the tail has become the larger member and is generally prolonged to some distance below the line to the right and is sometimes hooked right or left.

R (tab. I, cols. 1-8) has the various interesting forms transitional between capital and cursive; the stem is regularly curved, sometimes prolonged below the line, and may be hooked at base, right or left, while the bow is indicated, now clearly, and now only suggestively, by a curved arm or cap stroke. Ligature with preceding or following letter is by means of cap stroke.

S (tab. I, cols. 1-12) shows both the long, compressed, simple or double curve and the disjointed two-stroke letter with separate cap or arm. One form has stem and cap tied in a single stroke (col. 12), while another (col. 7) suggests nearly the later characteristic cursive letter with arm lowered so as to tie with stem at base.



T (tab. I, cols. I-II) is, regularly, the capital letter with strokes slightly curved; peculiar are certain forms (cols. 8-10) in which the cap seems to be continuous upon the stem, sometimes with a tie (col. 9). Ligature with following letter takes place through cap stroke (col. II).

U (tab. I, cols. I-9), beside the simple angle or curve and the two-stroke wax-tablet letter, has already a good single-stroke minuscule letter with curve and stem (col. 7).

X (tab. I, cols. I, 2) shows rather elaborate curves in one or both crossarms.

Y (tab. I, col. I) has tail and right arm in a single stroke, hooked at both top and base.

Z is wanting.

This papyrus seems to be the earliest extant in Latin. Wessely's dating is "Anfang unserer Aera"; the demotic writing on the verso placing it before the second century, and the double dating XIII k. August.  $\epsilon\pi\epsilon\iota\phi$   $\kappa\zeta$  corresponding to July 19 in 17-14<sup>b</sup> B.C.<sup>3</sup> If the demotic writing extends over the verso of both pieces, which Dr. Wessely's description does not tell us, it necessarily postdates the uniting of the two pieces and, consequently, the writing on the recto. Even otherwise, however, it would still, according to the general rule of recto-verso order of writing, serve as such a criterion.<sup>4</sup>

### 3. Cleveland, Ohio, Western Reserve University.

An account of payments of wages. Discovered at Ox-

<sup>b</sup> Tangl (Review of Wessely, *l.c.*) only partially accepts this—"Selbst wenn hier Verschreiben oder Irrtum vorliegen . . . erhalten wir durch die spätere, wohl noch dem 1. Jh. angehörige Schrift der Rückseite einen weiteren Anhaltspunkt zu dem auch der Vergleich mit dem Papyrus vom J. 166 ältere Schriftcharakter sehr gut stimmt."

<sup>3</sup> Wessely, *op. cit.*, p. 5, no. 1 and note 4. Cp. Unger, Georg Fr., *Zeitrechnung der Griechen und Römer*, in Müller's *Handbuch*, I, F (Munich, 1892), pp. 777-778, 828.

<sup>4</sup> Cp. Schubart, Wilhelm, *Das Buch bei den Griechen und Römern, Eine Studie aus der Berliner Papyrussammlung* (Among *Handbücher der Königlichen Museen zu Berlin*), Berlin, 1907, pp. 8-9; Wilcken, Ulrich, *Recto oder Verso?*, in *Hermes* 22 (1887), pp. 487-492.

See, however, exceptions to this rule, in mss. of later date in Goodspeed, Edgar Johnson, *Papyri from Karanis*, in *Studies in Classical Philology* 3 (1902), pp. 1-66; also Kenyon, *Greek Papyri in the British Museum. Catalogue with texts* (London 1893-1907), vol. 2, nos. 201, 337, 351, 390, 439, 459, etc.

yrhynchus in 1903. Fragments of several columns: fragment 1, 21 x 12 cm., containing col. 1, with one jointure; fragment 2, 22.2 x 25 cm., containing col. 2, two jointures; fragment 3, 15 x 9.5 cm. Writing along the fibres. Published: *Oxyrh. Pap.*, 4, no. 737, p. 233, and pl. 8. Cp. Ihm, *l.c.*; Van Hoesen, in *Western Reserve University Bulletin* 16, no. 4, p. 54.

The general appearance of the writing is similar to that of the graffiti, though more regular. The letters are clearly written and stand some distance apart. *T* with a following *o* is the only ligature.

The few abbreviations are of the simpler sort such as one finds in inscriptions: *a(sses)*, *s(emis)*, *textor(es)*. The last of these is regularly followed by the point placed in the middle of the line, as in inscriptions. A similar point separates the words *idus* and *textor.* in line 5.

A (tab. 1, cols. 6, 8, 12-15) has the cursive traits noted in no. 2, but in the treatment of the transverse stands rather nearer the capital letter.

B is illegible.

C (tab. 1, cols. 1, 2, 9) is a simple, regular curve. The large initial letter (cols. 2, 9) is used uniformly in the word *conductei* and at the beginnings of lines; otherwise the small letter, quite like our own minuscule (col. 1).

D (tab. 1, cols. 8-11), except perhaps col. 9, is the cursive two-stroke letter resembling *b*.

E (tab. 1, cols. 11, 12) has the disconnected, compressed, capital form beside forms of uncial tendency.

F does not occur.

G (tab. 1, col. 6) has short tail instead of transverse.

H is wanting.

I (tab. 1, cols. 1, 2, 4, 5) occurs frequently in its short straight form; where finishing hooks appear, they are of the simplest sort. The stem is prolonged above and below the line only when final in *conductei*.

K is wanting.

L (tab. 1, cols. 2, 7, 8) shows slight cursive tendency in the diminishing of the angle and, rarely, in curves.

M (tab. 1, cols. 9, 10) somewhat resembles the *m* of the waxes; the first stem is lengthened and curved, the rest of the letter made in a single broken or curved line. Cp. the Greek  $\mu$  of the first century.

N (tab. I, cols. 7, 8) is cursive only in its curved stems and transverse.

O (tab. I, cols. 1, 7, 8, 14) shows the single and two-stroke forms of no. 2.

P and Q do not occur.

R (tab. I, cols. 1, 4, 6, 7) shows less development than in no. 2 in that it lacks the wide curving cap stroke (cp. col. 5).

S (tab. I, cols. 2, 3, 13, 14) consists of an oblique, almost straight stem with curve or short cap stroke at right.

T (tab. I, cols. 1, 3, 4, 12-14, the last of these probably a correction) shows only very slight cursive tendency, in its curving strokes.

U (tab. I, cols. 6, 10-12) has generally the single curve, and only approaches the minuscule in the two-stroke form (col. 6).

X (tab. I, cols. 3-5) differs from the capital only in the unequal lengths of its arms and a very slight curving tendency.

Y and Z are wanting.

The dating of the fragments by Grenfell and Hunt,<sup>5</sup> " . . . a clear cursive hand which is probably of the reign of Augustus, the papyrus being one of a large find belonging practically entirely to that period," seems to be amply corroborated by the forms of the letters, which are considerably less advanced than the cursive letters in the graffiti and wax tablets.

#### 4. London, British Museum, Pap. DCCXCI.

Transfer of cattle in Greek with a subscription (ll. 15-17) in Latin.<sup>6</sup> 28 x 13.6 cm. Writing along the fibres. Published: *Oxyrh. Pap.*, 2, 244 (p. 193); 4, p. 267. Cp. Kenyon, F. G. and Bell, H. I., *Greek Papyri in the British Museum*, vol. 3 (London, 1907).

Abbreviations: *Aug(ustus)*, *ser(vus)*, *Tib(erius)*, *oct(avo)*. Words are regularly separated by a point in the line. The numeral is overlined.

The only ligature is that of *r* with a following *i*.

A (tab. I, cols. 16, 17) shows the earlier cursive forms, with curved and finished legs but with separate transverse stroke.

B (tab. I, col. 8) has long stem with open bow at left.

C (tab. I, cols. 7, 11, 12) is the cursive letter with separate cap stroke; here it is unusually broad and square.

<sup>5</sup> *l.c.*

<sup>6</sup> Description by Grenfell and Hunt. Studied in photograph.



D (tab. I, col. 10) has straight stem, with disconnected bow at left.

E (tab. I, cols. 13-15) is, regularly, the roughly rounded capital; with one broken-back form (col. 15, cp. col. 5).

F does not occur.

G (tab. I, col. 7) has a short, straight tail tangent to the lower inward bend of the curve.

H (tab. I, col. 5) is angular, but still cursive in the diminishing and curving of second stem.

I (tab. I, cols. 12-16), always short and nearly straight, has a peculiar flat cap stroke instead of the usual finishing hook; the stem is occasionally hooked at base.

K and L are wanting.

M is scarcely legible, but seems to resemble the form of tab. I, col. 1 or col. 6.

N (tab. I, cols. 9, 10) has its lines regularly curved and hooked; the transverse is freely placed.

O (tab. I, col. 14) is small and closed.

P (tab. I, col. 5) has hooked stem, and curved cap stroke instead of bow.

Q is wanting.

S (tab. I, cols. 8, 9) is made in two slightly curved strokes.

T is wanting.

U (tab. I, cols. 1, 2) has the simple curve or angle.

X, Y, Z do not occur.

The document is dated (lines 16-17): *anno VIII Tib (eri)<sup>c</sup> Caesaris Aug (usti) Mechir die oct(avo)*, i.e. Feb. 3, 23 A.D.

5. Berlin, Kgl. neues Museum, Aeg. Abth., P. 319.<sup>100</sup>

Fragment of a list of names. Provenance Fayûm. 12 - 12.5 x 10.5 - 13 cm. One jointure. Published: P. Viereck, in *Aeg. Urk.*, 4, 4, no. 1083.

The abbreviations of praenomina, of *filius*, and of tribal names are those regularly used in inscriptions. The point, regularly in the middle of the line after each word, is occasionally omitted.

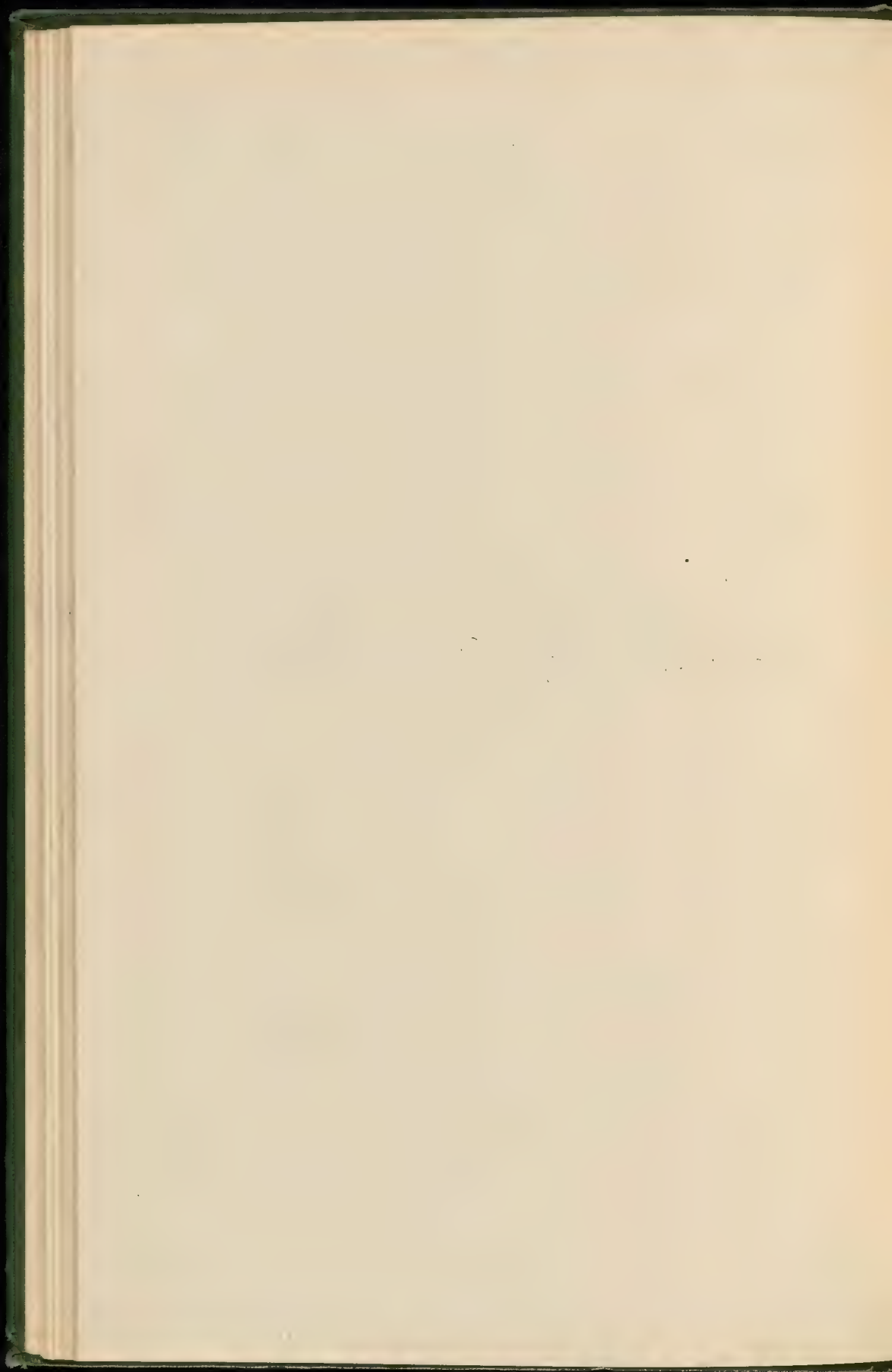
The writing is plain, without ligatures, and, except a few letters, more nearly rustic capital than cursive.

A shows our earliest cursive forms, the transverse some-

<sup>c</sup> Indistinct in the photograph studied. The reading is that of Grenfell and Hunt, *l.c.*

No. 5

A A A X B C C D D E E E F F - H I I -  
L L L L M M M N N N O O O O P Q R R R S S S  
T T U U U U V V X Y Y -





times in horizontal position, sometimes omitted, the legs prolonged and curved.

B is the capital letter, with small upper bow.

C is capital, varying only in size.

D is also capital.

E occasionally shows a very slight rounding of stem and base.

F, in the second form given above, has cap continuous on stem stroke.

G is wanting.

H is a capital letter with curved transverse.

I is short and slightly curved.

K is wanting.

L shows the first cursive changes of the capital letter, i.e. the diminished angle and the curved base.

M is very like the capital letter. Compare also the Greek  $\mu$  of the first century as in no. 3 (tab. I, cols. 9, 10).

N shows the lengthening of the first stem.

O has forms similar to the transition forms in nos. 2-3 and in the graffiti; here, however, even the two-stroke form is of circular outline.

P is capital with slightly open bow (cp. the graffiti).

Q is one of the more cursive forms noted in the foregoing (cp. tab. I, col. I, etc.).

R shows little change from the capital.

S is a simplification of the wide double-curved capital (cp. tab. I, cols. I, 2, 13, 14).

T has very slight curves (cp. tab. I, cols. 1-4).

U has the simple curve or angle, beside the two-stroke form quite similar to the commonest form in the wax tablets and to tab. I, col. 6.

X has a small finishing hook.

Y has forms familiar to us in the graffiti (cp. also tab. I, col. I).

Z is wanting.

The few cursive letters occurring make for a dating early in the first century.<sup>d</sup>

#### 6. Geneva, Papyrus Latin I.

Military records.<sup>7</sup> Two sheets, together measuring 37 x 36

<sup>7</sup> Studied in facsimile.

<sup>d</sup> Viereck (*l.c.*) dates it "1. Jahrh. n. Chr."

cm: Piece *a*, 28 cm. wide, three columns; Piece *b*, 9 cm. wide. Published: Nicole and Morel, *Archives militaires du I<sup>er</sup> siècle* (with facs.). Cp. Mommsen, in *Hermes* 35 (1900), pp. 443-452; Mayence, in *Musée Belge* 5 (1901), p. 331; Blümner, in *Neue Jahrb. f. Alt. Gesch. u. deutsch. Lit. u. Paed.* 5 (1900), pp. 432-443.

Several different hands appear. The verso is similarly written but independent of the recto in content. The general appearance of the writing resembles rough capital, but a few more cursive letters and a great many more ligatures appear than in the preceding papyri. Ligatures are still awkward, irregular, and comparatively infrequent, but involve nearly all the letters. Note the following: *a* with *d, l, r, s*; *b* with *a, r*; *c* with *i, l, t, u*; *d* with *r*; *e* with *a, c, f, i, l, m, n, o, p, r, s, t, u, x*; *f* with *a*; *g* with *a*; *i* with *a, n, t, u*; *l* with *a, h, i, u*; *m* with *a, i, m(?)*, *n(?)*; *n* with *a, i, t, u*; *o* with *m, r, s*; *p* with *o, r, s*; *r* with *e, i, m, u, x*; *s* with *t, u*; *t* with *a, e, i, o, r, u*; *u* with *i, l, m(?)*, *r, s*.

Abbreviations: 7 (= *centuria*), *pr.* (= *priore*). The only punctuation mark is the dot placed in the middle of the line between words.

A (tab. 2, cols. 1-6) shows great variety as in nos. 2-3; the transverse is indicated by hook at base of second leg, or, more often, omitted. Hooks at either extremity of the second leg may link with preceding and following letters.

B (tab. 2, cols. 1-4) has bow regularly at left, with stem more or less flourished; ligature with a following letter occurs at base of stem.

C (tab. 2, cols. 1-7) is quite similar to the letters noticed in tab. 1; the straight cap made in a separate stroke is fairly frequent. Ligature with following letter results from the downward bend of cap (col. 6); with preceding letter, by the break in the middle of back, the lower half bending back in a link (col. 7).

D (tab. 2, cols. 1-9) shows slight variations of the two forms noted in tab. 1; here the quasi uncial letter is much more frequent, also lending itself readily to ligature with preceding or following letter by the bending backward or the prolonging of the bow (cols. 6, 9).

E (tab. 2, cols. 1-5, 7) shows, for the most part, rounded, quasi uncial characters, although occasional more nearly

square forms suggest the square capital; links with preceding letter are at the top or the broken middle of the back, those with following letter at right of arm.

F (tab. 2, cols. 1-6) shows various transitions; in the more cursive forms the stem and cap form a single stroke; similar forms are occasional in the graffiti (cp. also tab. 1, col. 4), but regular first in the second century papyri.

G (tab. 2, cols. 1-4) has tail and curve combined in a broken line; several forms show separate cap stroke similar to that of *c*. The cap forms the link to following letter (col. 4).

H (tab. 2, cols. 1-6) has, generally, a slightly angular appearance, while certain forms are more curved than any before noted (cols. 3-6). The form in col. 6, with bow and stem tied together in a single stroke, is strange at this period.

I (tab. 2, cols. 1-30) shows all the varieties previously noted in length, position, curves, finishing hooks; one peculiar form has double hook at top of stem (col. 16). Ligature with preceding letter is by angle or hook at top, with following letter, by hook at top or base.

K (tab. 2, cols. 1-7) has rather elaborate curves and hooks.

L (tab. 2, cols. 1-5) is a rough capital, often with curved and hooked members, the base curving upward, and with diminished angle. It is joined to preceding letter by hook at top of stem, to following letter by hook or prolongation of base.

M (tab. 2, cols. 1-4) shows both capital forms and forms made in a single broken or curved line, which slightly approach the later uncial and minuscule. Ligatures occur by hooks at the bases of first and third stems (col. 4).

N (tab. 2, cols. 1-8) shows capital forms, transitional forms in which the transverse assumes a horizontal position often capping the stems so as to resemble the Greek cursive letter of the first century, and some two-stroke minuscule forms (col. 7). The cap stroke links with following letter, the cap or first stem with one preceding.

O (tab. 2, cols. 1-8) shows the various single and two-stroke letters of tab. 1, along with certain new forms (col. 8) consisting of a circle and an angle at top formed by tangents; the open circle with backward hook occurs in ligature with preceding letter, a tangent springing from top of circle links with following letter.

P (tab. 2, cols. 1-6, 8) occurs in the form noted in tab. 1,



with arm or cap instead of bow, but generally has the bow, open or closed or with its line intersecting the stem (col. 6); it is often written with a single stroke, bow first (cols. 5-6). Ligature with following letter is either through arm or through base of stem.

Q (tab. 2, cols. 1-4) is somewhat similar to the various single-stroke forms of tab. 1; the curve is open either above or beneath; the tail is more or less flourished, but, here, oblique either right or left.

R (tab. 4, cols. 1-5, 9, 14; line 9, cols. 29, 30) has the more flourished cursive letters of the inscriptions and wax tablets and seems an advance on the forms of tab. 1. A preceding letter links to top or base of stem, following letter, to arm or cap.

S (tab. 2, cols. 1-8) shows, instead of the older, single-stroke double curve, generally the two-stroke form with stem and cap or arm. The stem links at top with preceding letter (col. 8), the arm bending downward, with letter following (col. 7).

T (tab. 2, cols. 1-8) shows forms common in our earlier monuments, and one peculiar form (col. 8) with broken cap stroke. The cap is linked to either preceding or following letter, the base, rarely with the following letter.

U (tab. 2, cols. 1-7) shows, side by side, the old one-stroke simple-curve letter, the two-stroke form, and apparently, in a few examples (cols. 6, 7), the newer one-stroke minuscule. The simple curve links with following letter (col. 3), any of the above forms, with preceding letter (col. 7, etc.).

X (tab. 2, cols. 1-4) has, regularly, one straight and one curved crossarm.

Y and Z are wanting.

The letters are generally a trifle more advanced than the letters of table 1, the graffiti, and wax tablets. The recto bears dates between 81 and 90 A.D.: at the beginning, *an(no) III [Titi---]*; again, *an. III Do(mitiani)*; at the end, written with the sheet upside down, *Imp. Domitiano XV cons.* The verso lacks any notation of year but has *Domitianus* for *Octobris* several times and so is to be dated before 96 A.D.<sup>8</sup>

7. Geneva, Papyrus Latin IV.

Recto, fragmentary Latin account; verso, a few fragmentary

<sup>8</sup> Cp. Nicole and Morel, *op. cit.*; Mommsen, *l.c.*; Blümner, *l.c.*

lines in Greek cursive.\* Published: Nicole, J., in A. P. 3, p. 62 ff.

" . . . l'aspect de cette colonne, partagée en séries symétriques, le retour de la même somme en tête de chaque série et celui, dans l'intérieur des séries, à certaines places, de chiffres identiques ou à peu près égaux, tout cela suggère d'emblée un rapprochement entre notre fragment et la pièce No. 1 des Archives Militaires, contenant les comptes de deux soldats de l'armée d'Égypte pour l'année 83-84 J.C. A l'analyse, ce rapprochement s'impose tout à fait." . . . > = *centurio*, or *centuria*. . . . "Aucun fait précis ne permet de déterminer directement l'époque à laquelle notre pièce a été dressée. Restent les données indirectes. L'écriture se rapproche trop de celle du Papyrus I pour que les deux textes soient chronologiquement à une grande distance l'un de l'autre. Cela posé, l'augmentation qu'en passant de l'état financier de Proculus et de Germanus à celui de Quadratus, on constate dans le montant des *stipendia* et dans le prix d'articles identique, assigne au Compte de Quadratus une date sensiblement postérieure à l'année 83-84. . . . on pourra penser aux jouissances qui saluèrent, dans les camps de l'armée romaine d'Égypte, la nouvelle de l'avènement de Nerva, appelé à l'empire l'18 Septembre de l'an 96."

8. Vienna, Hofbibliothek, Sammlung Rainer.

Fragment of a list of soldiers, according to centuries, of *legio III Cyrenaica*. 14.2 x 10.4 cm.<sup>2</sup> Published: Wessely, *Schrifttafeln*, no. 8 (with facsimile). Cp. Ihm, p. 343, no. 4.

The general appearance of the writing is rustic capital. The cursive letters are similar to our earlier forms. Few ligatures occur: *a* with *p*, *r*; *e* with *g*, *t*; *l* with *e*; *m* with *i*; *o* with *n*; *r* with *o*, *u*; *t* with *r*; *u* with *s*.

Abbreviations: *Cyr(enaica)*, *leg(io)*, > (= *centuria*),

\* As described by Nicole. Photograph of the original unobtainable.

"Genève, le 2 novembre 1911."

"La Bibliothèque de Genève se prépare en effet à publier des reproductions de ses papyrus et dans ces conditions elle a décidé de ne pas donner l'autorisation de photographier des pièces dont elle se réserve la publication."

(Signed) "Le Conservateur: Henri Delavue".

<sup>2</sup> Description from Wessely, pp. 7-8, no. 8. I saw the original only long enough to identify it with this.

θ (= *obitus*), *tr(anslatus)*, *te(tates?)*.<sup>9</sup> A horizontal overline indicates numerals.

A (tab. 2, cols. 6-8) has either straight or curved legs; the transverse rarely appears as pendant (cp. col. 2); the outward curve of second leg links to following letter.

B (tab. 2, cols. 4, 5) shows carelessly made, cursive forms with bow at left.

C (tab. 2, cols. 1, 5) occurs in single-stroke form, and with flat cap.

D (tab. 2, cols. 10, 11) shows unusual forms, with bow at the right, which occur elsewhere only in no. 21—they are perhaps to be explained by the awkwardness or left-handedness of the writer.

E (tab. 2, cols. 3, 6, 8-10) shows the compressed capital and uncial letters and, beside them, some more cursive forms lacking cap and base, in one of which the arm seems to be tied to top of back (col. 8). Ligature with preceding letter is through base, with following, through arm.

F (tab. 2, cols. 4, 7-9) usually differs from the capital only in its curved lines; some forms, standing either alone or in ligature, have upper arm at left instead of at right of stem.

G (tab. 2, cols. 5-7) has sometimes a short vertical tail, but more often one more elaborately curved than forms in tab. 1 or no. 6.

H does not occur.

I (tab. 2, cols. 1, 17, 18, 20, 28, 30; line *h*, col. 21) varies in form similarly to no. 6, and shows also some new double curves (line *h*, col. 21; line *i*, col. 30).

K is wanting.

L (tab. 2, cols. 1, 2, 6-9) shows only slight individual differences from the forms of no. 6; the base is prolonged in ligature with following letter.

M (tab. 2, cols. 4, 6-8) is regularly the angular or rounded capital; some forms with prolonged first stem and compressed stem and oblique resemble the Greek (cols. 7, 8; cp. tab. 1, cols. 9, 10). The last stem links at base with following letter.

N (tab. 2, cols. 1, 3, 4, 6) has occasional curved strokes; the transverse is variously placed.

O (tab. 2, cols. 1, 3, 5, 9) is the round single-stroke letter;

<sup>9</sup> Wessely, *l.c.* On the general subject *Abbreviations in Latin papyri* cp. *Transactions and Proceedings of the American Philological Association* 44 (1913), p. 39 ff.



a more cursive form appears (col. 9) in ligature with following letter; the link is a tie instead of a tangent (as e.g. col. 7).

P (tab. 2, cols. 1, 7-9), regularly with bow, occasionally has curved stem; in ligature the lower side of the bow of the single-stroke letter crosses the stem to link with preceding letter.

Q is wanting.

R (tab. 2, cols. 6-9) presents a good series of forms transitional from capital to cursive; in ligature the top of stem is joined to preceding letter, the cap or arm, to following (col. 9).

S (tab. 2, cols. 2, 3, 4, 9-14) is made, regularly, with slightly curved stem and straight cap or arm stroke; later cursives appear in the forms with arm springing from base of stem, once with a tie (cols. 12, 14; cp. tab. 1, cols. 7, 10).

T (tab. 2, cols. 3, 4, 9-11) has, oftenest, a hooked stem and straight, horizontal or oblique, cap; the letter joins in ligature at ends of cap stroke (col. 11).

U (tab. 2, cols. 3, 8-12) shows both the single-stroke angle or curve and the two-stroke form; ligature forms are as noted in no. 6 (cols. 3, 12).

X (tab. 2, cols. 5, 6) has one arm slightly curved.

Z (tab. 2, col. 2) occurs once, in capital form.

The papyrus is to be dated before the withdrawal of the *legio III Cyrenaica* from Egypt.<sup>10</sup> \* The forms of the letters (esp. *a*, *c*, *g*, *s*) seem also to point to the end of the first century.

9. Oxford, Queen's College.

Enrolment of recruits. 36.8 x 9 cm.<sup>b</sup> Published: Hunt, *Oxyrh. Pap.*, 7, no. 1022, pp. 150-152, and pl. 1; Mitteis and Wilcken, I, i, no. 453.

The writing is in a clear, easy cursive hand. Ligatures: *a* with *l*, *n*, *r*, *s*, *t*, *x*; *b* with *i*; *c* with *c*, *u*; *e* with *c*, *m*, *n*, *o*; *f* with *r*; *h* with *u*; *k* with *a*; *m* with *a*, *i*; *n* with *i*, *n*; *p* with *a*, *e*, *r*; *r* with *a*, *i*, *n*, *o*, *u*; *t* with *a*, *r*, *u*; *u* with *a*, *l*, *m*, *n*, *r*.

<sup>10</sup> Wessely, *l.c.* Cp. Meyer, Paul, *Die ägyptische Legio XXII und die Legio III Cyrenaica*, in *Neue Jahrb. f. Philol. u. Paed.* 155 (= *Jahrb. f. Class. Philol.* 43, 1) (1897), esp. p. 587; Mitteis and Wilcken, I, i, p. 391; Wilcken, in *Hermes* 37, p. 84.

\* The latest dated record of this legion in Egypt is the Berlin P. 6890 (*Aeg. Urk.*, I, no. 140), of August 4, 107 (Meyer, *l.c.*) or 119 (Wilcken, *l.c.*).

<sup>b</sup> Description by Hunt. Studied in facsimile.

Abbreviations: *annor(um)*, *ann(orum)*, *ann(o)*, *C(aius)*, *coh(ors)*, *cornicular(ius)*, *dextr(a)*, *i(conismus)*, *imp(erator)*, *k(alendas)*, *n(ostri)*, *singul(arem)*, *supercil(io)*, *sinistr(o)*, *sinistr(a)*. The dot in the middle of the line occurs generally after abbreviations and sometimes after numerals. The abbreviation *n(ostri)* is overlined. A colon appears in l. 7.

A (tab. 2, cols. 5, 6, 9-13) has, beside the older forms with transverse and slightly curved legs (cols. 5, 10), newer forms with longer, freer curves (cols. 11, 13); ligatures are formed through top of first leg and base of second.

B (tab. 2, cols. 7, 8) is the cursive letter with gracefully curved stem which links with following letter.

C (tab. 2, cols. 1, 5, 8-12) has generally flat cap, or, here sometimes, arm; in ligature with following letter, the upper part of curve, or the cap stroke, is prolonged; with preceding letter, the link is attached at top of back.

D (tab. 2, col. 12) is a sloping minuscule with straight stem and with bow at left.

E (tab. 2, cols. 9-18) is sometimes the compressed uncial letter, but is often a single-stroke letter lacking base, the arm replaced by an oblique or curve springing from base of stem (cols. 11, 12, 19); ligature with preceding letter is either through base (col. 13) or through a tie at top of the stroke forming stem and cap (cols. 14, 15); the arm is prolonged to link with following letter.

F (tab. 2, cols. 4, 10, 11) is a rough or rounding capital letter; the beginning of a double-stem form may be seen in col. 10.

G (tab. 2, cols. 8, 9) has short oblique tail; the form in col. 9 shows flat cap stroke.

H (tab. 2, col. 7) has stem hooked at both ends and unites with following letter through prolonged transverse.

I (tab. 2, cols. 3, 11, 20, 26, 29; line *h*, cols. 22-28) shows, beside the common varieties already noted, a new finishing hook at right, going below the line (line *h*, col. 24).

K (tab. 2, cols. 8, 9) has cursive curves and hooks; the lower side of angle links with following letter (col. 9).

L (tab. 2, cols. 6, 10-14) shows occasional new features in the finishing angle at top of stem, the short cap stroke, the curve sweeping downward below the line.

M (tab. 2, cols. 8-18) shows a series of transitional forms,

from the angular capital, through the forms suggestive at once of the wax-tablet letter and the Greek  $\mu$ , to a minuscule letter occurring only in ligature, with a new link stroke attached at an angle to base of first stem (col. 17) or folded upon it (col. 18).

N (tab. 2, cols. 7-17) shows various new features; in some forms the second stem is much shorter than the first (cols. 10, 11) and, in others, is made in a single curved stroke with the transverse (cols. 12, 13, 16, 17); other forms with flat cap instead of transverse have been noted also in no. 6; in one form (col. 9) this cap is tied with the second stem; ligatures are joined at tops of stems.

O (tab. 2, cols. 1, 5, 8, 10-12) offers nothing new except in ligatures, in which either top or side is joined with preceding letter (cols. 11, 12).

P (tab. 2, cols. 10-15) always has cap instead of bow, in one form (col. 16), tied to the stem; ligature with following letter is through cap.

Q is wanting.

R (tab. 2, cols. 12-23) shows considerable advance in cursive tendency; the stem is variously straight or curved, hooked at top in ligature with a preceding letter, and short or running below the line in a double curve; the arm or cap stroke is a double curve, an angle, or an oblique line, ending in a flourish or bend to link with following letter. A form common much later (col. 22) has the arm lowered so as to spring from base of stem in a double-stem single-stroke letter.

S (tab. 2, cols. 1, 15-22) shows the different two-stroke forms with separate cap or arm; the stem occasionally has a finial hook or bow at top (cols. 19, 20); in one form the stem appears to be looped (col. 22).

T (tab. 2, cols. 1, 7, 12, 13) has mainly straight or slightly curved and hooked strokes; the stem is linked to preceding, the cap to following letter.

U (tab. 2, cols. 1, 11, 13-20) is the simple curve or angle, or, occasionally, the two-stroke letter; both sides of curve may be bent outward in ligature; in ligature with following letter, a new simple-curve form appears, placed erect or on its side above the other letters (cols. 18-20).

X (tab. 2, cols. 7-9) is only slightly curved. As a numeral it is drawn more cursively (col. 10). A preceding letter may link to the lower left arm.



Y and Z do not occur.

The date is (11.24-25) : *VI k. Martias ann. VI imp. Traiani n.*,  
i.e. Feb. 24, 103 A.D.

10. Vienna, Hofbibliothek, Sammlung Rainer.

Fragment of a military roll. 7.3 x 9.1 cm. Fragments of two columns; of the first, only a few letters at the extreme right, of the second, somewhat over half the original width remains.<sup>11</sup> Published: Wessely, *Schrifttafeln*, no. 9 (with facsimile). Cp. Ihm, p. 343, no. 5.

The writing might perhaps better be classed as rustic capital,<sup>1</sup> but the cursive traits of certain letters (e.g. *c*, *i*, *l*, *n*, *r*, *s*) associate it with the cursive writing under discussion. The letters stand some distance apart. The few ligatures are: *c* with *e*, *o*; *i* with *n*; *t* with *o*.

Only praenomina and the word *consul* are abbreviated. The separation point between words is occasional. Numerals are marked with a horizontal overline.

A (tab. 2, cols. 14-16) is made with more or less flourish; the transverse is represented by a hook or angle at base of first leg; other examples of this occur only in the graffiti and waxes.

B (tab. 2, col. 9) has a hook and a monumental base stroke attached to the stem; the bows are only slightly slurred.

C (tab. 2, cols. 12-14) has the compressed capital, the cursive form with separate horizontal cap stroke, and a combination of the two in a tied prolongation of the upper part of the curved capital.

D (tab. 2, col. 13) is a unique form.

E (tab. 2, cols. 20, 21) is close to the capital form.

F and G are wanting.

H (tab. 2, col. 8) is a capital letter with slight finishing hook.

I (tab. 2, cols. 9, 12; line *h*, col. 29) has the cursive hooked finials, left at top, and right at base of stem, though wider than general elsewhere; one form (line *h*, col. 29) hooks to the right with a tie at top.

K is wanting.

<sup>11</sup> Description by Wessely, p. 8, no. 9. Studied in facsimile.

<sup>1</sup> Wessely, *l.c.*, calls it "Unciale mit cursiven Elementen," and there is an evident tendency toward roundness.

L (tab. 2, cols. 15-17) shows some forms unusual in the tying of stem and base in a single stroke.

M (tab. 2, cols. 19, 20) is a roughly made angular capital.

N (tab. 2, cols. 18-20) (the last, col. 20, must be a mistake, possibly for *in*, correct spelling, however, to the contrary) shows cursive tendency in the rounding of the angle between transverse and second stem.

O (tab. 2, cols. 13-17) is nearly circular, although often made with two strokes.

P (tab. 2, cols. 17, 18) suggests the monumental square capital with flat finishing stroke at base of stem.

Q (tab. 2, col. 5) is a hastily written capital.

R (tab. 2, cols. 24-27) suggests (col. 24) the ornate square capital, while, in the last two forms (cols. 26-27), approaching more nearly the cursive with its curved arm and finishing hooks (cp. cols. 5-7).

S (tab. 2, cols. 23-25) sometimes shows the old double-curve letter, but more often has separate cap stroke.

T (tab. 2, cols. 14-16) in its flat finishing stroke suggests the capital, in the curving of stem and cap, the cursive letter.

U (tab. 2, cols. 21-24; line *x*, col. 21), made with one or with two strokes, has a general angular appearance in spite of slight curves and finishing hooks.

X is lacking.

Y (tab. 2, col. 3) is one of our simpler cursive forms.

Z does not occur.

The document has several fragmentary consular datings: (l. 1) *Vero III et —*; (l. 4) *Torquato H [=II] et A —*; (l. 7) *Marcello II et —*. Professor Wessely supplies in l. 4 so as to read *Torquato II et Attico*, dating then "cca. a. 143." The consuls of this year were generally written "*Torquato et Attico*," Prosper alone giving "*Torquato II et Herode*." The other two names in l. 1 and l. 7 are not found in the *Fasti* in the years about 143. If however the *A —* of l. 4 may be supplied to read *A(nnio Libone)*, the three names and their following numbers fit in the *Fasti* for the years 126 (*M. Annius Verus III* and *C. Eggius Ambibulus*), 128 (*Torquatus Asprenas II* and *M. Annius Libo*), and 129 (*P. Iuventius Celsus II* and *L. Neratius Marcellus II*), giving an approximate date of 129.<sup>12</sup>

<sup>12</sup>Cp. Liebenam, W., *Fasti consulares Imperii Romani* (Bonn, 1909), p. 21.

11. London, British Museum, Pap. CCCCLXXXII.

Presented by Prof. W. M. Flinders Petrie, D.C.L. List of names. 8 x 3½ in. Writing along the fibres. One jointure. Described by Kenyon, *Catalogue of Greek Papyri*, vol. II, p. XLII.<sup>1</sup>

The writing is in a rather broad, rapid, cursive hand. Ligatures: *a* with *c*, *n*, *s*, *t*; *c* with *o*; *e* with *n*, *r*, *s*; *m* with *a*, *i*; *o* with *s*; *r* with *u*; *t* with *e*, *h*, *o*, *r*; *u* with *l*, *s*.

The only abbreviation, aside, perhaps, from the dropping of the final letter from proper names, is *cos*.

A (tab. 2, cols. 6, 12, 13, etc., 17, 18) is the early cursive letter with curved legs, lacking transverse or pendant.

B (tab. 2, cols. 10, 11) is a rapid cursive, with double-curved stem approaching a horizontal position above the bow.

C (tab. 2, cols. 1, 5, 15, 16) generally has flat cap, which sometimes crosses the stem (col. 16) like the cap of *t*.

D (tab. 2, cols. 14, 15) is a cursive extension of the uncial letter similar to the forms noted in ligature (col. 9).

E (tab. 2, cols. 2, 3, etc., 14) is either the narrow, somewhat rounded capital or the uncial, joining at top of back with preceding, through transverse with following letter.

F (tab. 2, col. 12) is capital with cursive cap stroke.

G (tab. 2, cols. 10, 11) has the cursive short tail and long upward cap stroke.

H (tab. 2, cols. 9, 10) is capital with curved stem; ligature occurs with preceding letter through a link at top of first stem.

I (tab. 2, cols. 3, 14, 17, 19, 23) shows slight variations of the straight-stem letter.

K is wanting.

L (tab. 2, cols. 6, 18, 19) regularly curves more or less downward; it is linked to preceding letter by hook at top of stem.

M (tab. 2, cols. 21-23) is the rapidly written angular capital; in col. 23, the two middle obliques are slurred in a single curve; ligature with following letter is at the extremity of final stroke.

N (tab. 2, cols. 5, 21, 22) is cursive in the varying position of the transverse.

O (tab. 2, cols. 1, 2, etc., 18-21) occurs in the simple circular form and in the two-stroke form (cols. 18, 20); it is linked to following and preceding letters by ties or angles (cols. 19-21).

<sup>1</sup> Studied in photograph.



P (tab. 2, cols. 1, 19) has straight stem and more or less wide open bow.

Q (tab. 2, col. 6) has open bow and double-curved tail.

R (tab. 2, cols. 10, etc., 28, 29) has double-curved cap and long stem.

S (tab. 2, cols. 23, 26-29), beside a capital form (col. 23), has the two-stroke cursive with arm extending upward.

T (tab. 2, cols. 11, 17) has cap and stem only slightly curved.

U (tab. 2, cols. 2, 26-28) is the simple curve or angle, often with straight finials.

X (tab. 2, cols. 11, 12) has slightly curved strokes.

Y and Z are lacking.

The date (lines 7-8) is: *Catulino et Apro cos.*, i.e. 130 A.D.

12. Berlin, Kgl. neues Museum, Aeg. Abth., P. 7124.

Fragment of a will, with one Greek signature. 11.5-26.5 x 21.5-29 cm. Three pieces joined, measuring in width 4 cm., 16.8 cm., 8 cm. respectively. Writing along the fibres. Unpublished.

Ligatures are fairly frequent, but are irregular in their formation: *a* with *e, m, n, s, t*; *c* with *l, o, t*; *d* with *u*; *e* with *a, b, f, l, m, n, p, q, r, s, t*; *f* with *a*; *g* with *i, l*; *h* with *a*; *i* with *a*; *n* with *i, f*; *o* with *g, m*; *r* with *e, i, o, r, s*; *s* with *s*; *t* with *a, e, i, l, o, q, r, s, t, u*; *u* with *m, n*.

Abbreviations: *Aug(ustus)*, *Ap(ril)es*, *C(aius)*, *co(n)s(ul)*, *dol*, *f(ilius)*, *imp(erator)*, *kal(endas)*, *lib(ertus)*, *M(arcus)*, *mag(ister)*, *rog(avit)*, *Ler(zius)*, *vet(eranus)*. An overline marks some abbreviations. The separation point between words is frequent.

A (tab. 2, cols. 19-21) has curved legs with an occasional finishing hook; no transverse or pendant; a quasi minuscule form occurs in ligature (col. 21).

B (tab. 2, cols. 2, 3, etc., 12, 13) shows our common forms; the bow is sometimes joined to preceding letter (col. 13).

C (tab. 2, cols. 1, 2, 5, 8, etc., 16-18) regularly has cap stroke, sometimes prolonged in a flourish; the back links with preceding letter.

D (tab. 2, cols. 3, 16-19) has, regularly, the single-stroke quasi uncial letter, with occasional two-stroke forms (col. 18); the top of stem links with preceding, a continuation of bow line, with following letter (col. 19).

E (tab. 2, cols. 3, 9, etc., 22-27) shows, uniformly, rounded forms, sometimes lacking base or cap (cols. 22, 24, 26).

F (tab. 2, cols. 8, 12, 14-18) shows, beside the angular flourished capital letter, peculiar forms with stem doubled in fold or loop at base (cols. 16-18); links with preceding letter are at left of stem, with following letter, at end of transverse.

G (tab. 2, cols. 12-15) generally has separate, flat cap stroke, which may link to following letter.

H (tab. 2, cols. 11-13) has the general square outline, occasionally with rounded angles and curved stem.

I (tab. 2, cols. 4, 7, 10, 14, 18, 23; line *h*, cols. 27, 30; line *g*, cols. 21-23) is quite similar to the varied letter noticed in tab. 2.

K is wanting.

L (tab. 2, cols. 20-22) has stem and base in an angle, curve, or tie; the base slants or curves downward instead of upward as regularly in the first century (excepting occasional forms in the graffiti and waxes).

M (tab. 2, cols. 21, 24-28) shows the angular capital letter and the occasional cursive minuscule side by side; the form in col. 27 suggests the uncial letter in the backward turn of the last leg and the uniting of the two obliques (here in a small loop).

N (tab. 2, cols. 1, 23-25) is, for the most part, a disjointed capital letter; occasionally transverse and second leg form one curved stroke; the linked form (col. 25), made in a single-stroke double curve, together with the link joining it to preceding letter, strongly resembles the cursive minuscule.

O (tab. 2, cols. 1, 22-25) has here, regularly, the single-stroke oval form; in ligature, the two sides of the curve intersect to link with letters on both sides.

P (tab. 2, cols. 20-24) has stem and bow curved, sometimes in a single stroke; the first century letter, with open curve instead of bow, occurs in ligature with following letter (col. 24).

Q (tab. 2, cols. 7-11) has the tail, here for the first time, regularly slanting toward the left.

R (tab. 2, cols. 9, etc., 30; line *q*, cols. 20-24) is like our earlier cursive forms, with, perhaps, longer and more flourished stem.

S (tab. 2, cols. 7, 30; line *t*, cols. 25-30; line *u*, col. 25), in the falling of the cap stroke into the position of an oblique

arm, is transitional to the single-stroke cursive with folded, tied, or looped double stem and upward flourish (line *t*, cols. 28-30).

T (tab. 2, cols. 1, 3, 18-21) still shows varying straight and curved strokes; the cap is broken in ligature (col. 21).

U (tab. 2, col. 2, etc; line *x*, cols. 25-28) is a single-stroke letter, in both the older simple curve and the later minuscule (line *x*, cols. 26, 27).

X has one arm slightly curved.

Y and Z do not occur.

The forms of the letters generally (especially *a*, *f*, *l*, *m*, *o*, *q*, *r*, *s*) seem slightly in advance of those previously noted and harmonize with the date which may be read (col. 2, lines 4, 5):  
[ka]l April. Ser. O[c]tavian L[ae]natē - - - . . . M. Antonio  
Rufino co[s?] anno XI imp. Caesaris Traiani Hadriani Aug.  
mense - - - die XXVII; (Col. 2, line 11), - - - [e]isdem  
cos. anno XVII, i.e. 131 A.D.

13. Berlin, Kgl. neues Museum, Aeg. Abth., P. 8997.

Fragmentary nine lines of uncertain content (a letter?).  
12.5-13.3 x 11.5-12.5 cm. Two pieces joined, measuring respectively 8.8.7 cm. and 3.8 cm. The beginning of l. 2 has a large initial letter set into the margin. Writing along the fibres. Unpublished.

Few letters are distinguishable. Ligatures: *e* with *m*; *m* with *p*; *u* with *s*.

A (tab. 2, col. 22) is a flourished initial; the transverse is indicated by hook of second leg.

B and C are not clear.

D (tab. 2, cols. 21, 22) is quasi uncial, in one form (col. 21), finished at top with an angle.

E (tab. 2, cols. 23, 27, 28) is a compressed uncial, with wide curve and short transverse.

F and G have no clear examples.

H (tab. 2, col. 13) is the angular cursive.

I (tab. 2, cols. 3, 18, etc.; line *g*, col. 24) has generally a minuscule form; the peculiar long twisted letter (line *g*, col. 24) is initial in a line.

K is wanting.

L seems to be the curved, downward tilted letter noted in no. 12 (tab. 2, cols. 11, 17, etc.).



M (tab. 2, cols. 1, 14, 17) shows the broken line similar to the capital, beside, in ligature, a nearer approach to the minuscule (col. 17).

N (tab. 2, cols. 21, 23) has the slightly curved stems and the irregularly placed transverse of our earlier cursive letter.

O (tab. 2, cols. 2, 26, 27) has the simple oval form.

P (tab. 2, cols. 7, 21, 26, 27) has the two-stroke curved forms, as regularly, with the single-stroke form in ligature (col. 7).

Q (tab. 2, col. 12) has the tail running to the right.

R (tab. 2, col. 35) is made with some flourish.

S (tab. 2, col. 8), in ligature, has stem doubled in a clubbing.

T (tab. 2, cols. 1, 4) has either straight or curved strokes.

U (tab. 2, cols. 2, etc., 18) is the simple curved letter.

X (tab. 2, col. 14) has both crossarms double-curved.

Y and Z are lacking.

The letters, though in some cases less advanced than those of no. 12, seem (esp. *d*, *l*, *m*, *p*) characteristic of the early second or late first century. The date is perhaps: *imp. [A]-ntonino A[ug] I[I?]* *cos.*, i.e. 139 A.D.

14. Berlin, Kgl. neues Museum, Aeg. Abth., P. 7428.

Fragmentary list of names. 8.3-9. x 17 cm. Line 2 has a large initial letter and the second letter set in the margin. Writing across the fibres. Published: Fr. Krebs, in *Aeg. Urk.*, 2, no. 609. Cp. Ihm, p. 345, no. 14.

The letters are small but plain. Ligatures are fairly frequent and are of irregular form: *a* with *b*, *i*, *n*; *c* with *a*; *e* with *a*, *i*, *l*, *m*, *r*, *t*; *f* with *a*; *g* with *n*; *i* with *n*, *o*, *s*; *l* with *e*; *m* with *p*; *p* with *r*; *r* with *e*, *o*; *s* with *e*, *u*; *t* with *o*; *u* with *e*, *l*, *s*. A few ligatures combining more than two or three letters are new here.

Several names are abbreviated, apparently for want of space in the column: *Antoni(us)*, *Gemell(us)*, *Sempronia(nus)*. Praenomina are, of course, abbreviated. Other abbreviations are: *exsignif(er)*, *eximag* and *eximm* (= *eximaginifer*), *excor(nicularius)*. The point in the middle of the line generally follows the letter indicating the praenomen.

A (tab. 2, cols. 5, etc., 23-25) lacks the transverse.

B (tab. 2, col. 16) is the regular cursive.

C (tab. 2, cols. 1, 12, etc., 19, 20) regularly shows separate cap stroke; the base links to following letter.

D (tab. 2, cols. 22, 23). The two-stroke letter stands alone, the uncial, in ligature with following letter.

E (tab. 2, cols. 3, 29, 30; line *d*, col. 30) is uncial; the transverse stands at various angles to back of curve; in one form, where the back links with preceding letter, the cap is omitted.

F (tab. 2, cols. 1, 19) has slightly curved strokes.

G (tab. 2, cols. 16-18) has flat cap stroke; the tail curves either downward or outward; one ligature form links base of tail to following letter.

H does not occur.

I (tab. 2, cols. 3, 17, etc.; line *g*, cols. 25-30) is, in general, similar to the forms noted in no. 12, etc.; here the upper finishing hook to the right is sometimes replaced by a short arm or by a tie, which, like the hook (line *h*, col. 27), may link to following letter; the clubbed stem also occurs in ligature (col. 16).

K is wanting.

L (tab. 2, cols. 19, 22-25) is tilted more or less to the right, the base slanting downward.

M (tab. 2, cols. 9, 30) is the angular capital; a short flat stroke at top of last stem sometimes joins with following letter; in other cases it is probably a finial, or, possibly, marks an abbreviation.

N (tab. 2, cols. 25-27) shows the irregular placing of transverse and the slurring of transverse with second stem; the base of first stem joins to preceding letter.

O (tab. 2, cols. 1, 6, 28-30; line *n*, col. 30) is the simple open or closed curve.

P (tab. 2, cols. 28-30) has the regular single and two-stroke forms of this period, with wide hooks at base of stem; a hook at top of stem links to preceding, the open bow, to following letter (col. 28).

Q (tab. 2, col. 13) has tail oblique right, with finishing hook at left (cp. col. 4).

R (tab. 2, cols. 1, 5, etc.; line *q*, cols. 26-28) has the regular oblique or curved stem and cap.

S (tab. 2, line *u*, cols. 27-30) has oblique or curved stem with arm stroke; the stem hooks at top in ligature with preceding letter, the arm bends downward to join following letter (line *u*, col. 30).

T (tab. 2, cols. 17, 22-24) has, beside the usual forms, the form with divided cap stroke, both when in ligature and when standing alone (cp. cols. 8, 21).

U (tab. 2, cols. 1, 8, 11, 12, 19; line *x*, cols. 29, 30) shows the simple angle or curve and the two-stroke form; a separate link stroke is occasional (line *x*, col. 29).

X (tab. 2, cols. 14, 15) has one arm rather elaborately curved.

Y and Z are wanting.

The document bears the date (l. 1): *imperante Antonino III et M. Aurelio Vero cos.*, i.e. 140 A.D.

15. Berlin, Kgl. neues Museum, Aeg. Abth., P. 8334.

"Exemplum Codicillorum" on the verso; the recto in Greek. 22 x 14.4-15 cm. Unpublished.

Ligatures: *a* with *m*; *c* with *i*; *e* with *c*, *f*, *i*, *m*, *r*, *t*; *h* with *i*; *i* with *a*; *m* with *a*; *o* with *n*, *r*; *t* with *i*; *u* with *a*, *s*.

Words are generally separated by a point.

A has slightly curved lines, pendant instead of transverse, and is hooked in ligature with preceding and following letters (cp. esp. tab. 2, cols. 2, 6, 13, 24); the last form noted in the plate above, with tie in pendant linking to following letter, is unique.

B has the double-curved stem and open bow at left common in the mss. represented in tabs. 1 and 2.

C has the separate horizontal cap stroke appearing in tab. 1 and most frequently in the mss. of tab. 2.

D has both the quasi uncial form and the two-stroke form with bow at left and generally straight stem slanting left to right (cp. esp. tab. 1, cols. 3, 6; tab. 2, cols. 8, 12, 16).

E is the rough capital or the uncial (cp. tab. 1, cols. 11-14; tab. 2, cols. 1, 2, 5, etc.).

F is cursive in its curved stem, which is sometimes written in a continuous curved line with the cap (cp. tab. 1, cols. 1, 3; tab. 2, cols. 1-6).

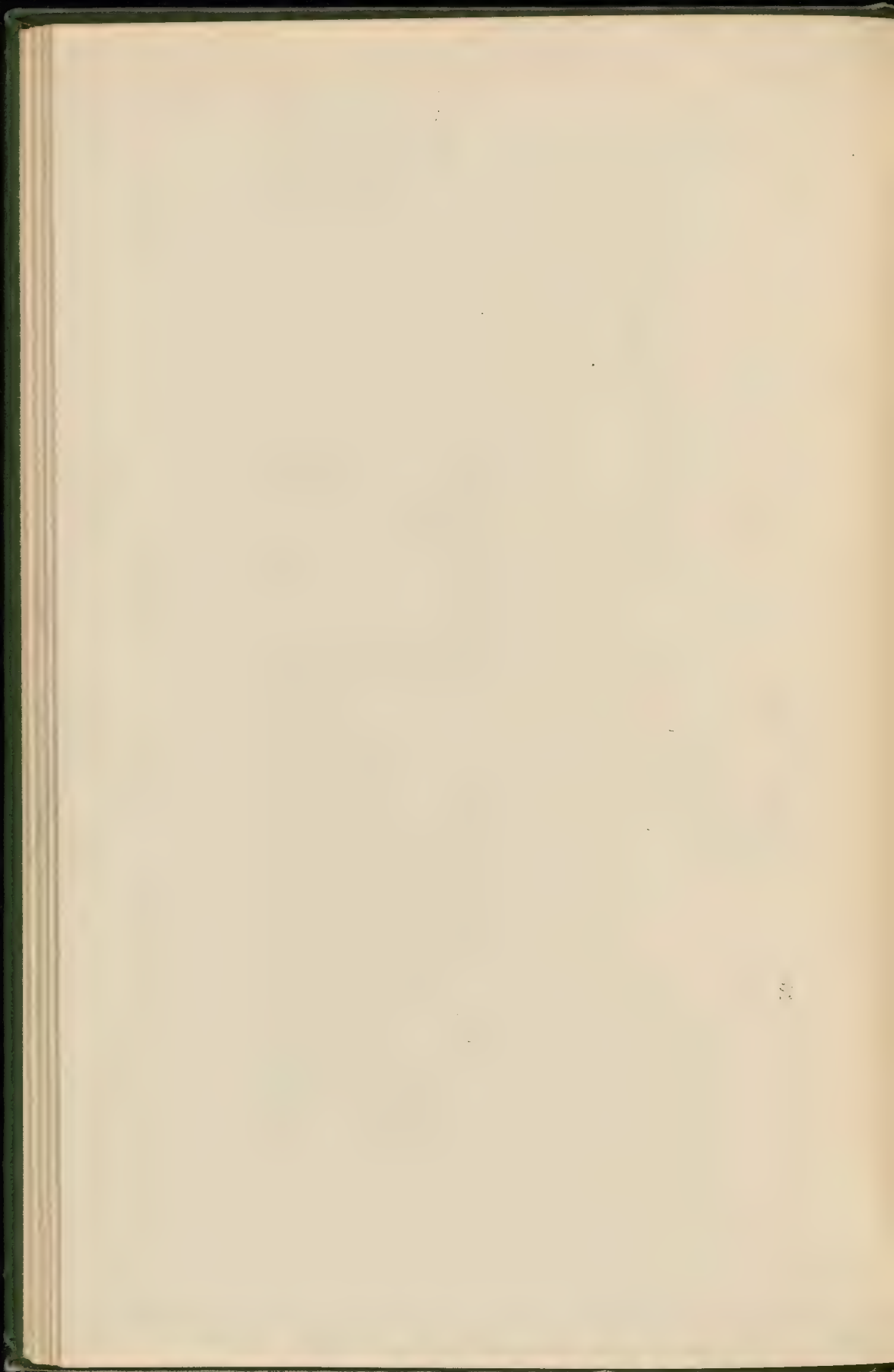
G has short tail bending backward from the large curve (cp. tab. 2, cols. 5, 10; Pompeian waxes).

H is angular, but has finishing hooks and angles (cp. tab. 1, cols. 3, 4; esp. tab. 2, col. 2); its transverse is prolonged to link to following letter (cp. tab. 2, col. 7).

I, when standing alone, has its curves, hooks, and cap at







right of stem (cp. tab. 1, cols. 13, 14; tab. 2, col. 5; line *g*, col. 28; *graffiti*).

K is wanting.

L has curved stem and angle with base tending slightly downward (cp. tab. 2, cols. 18, 19; *graffiti*; Pompeian waxes).

M is the rough angular capital, with occasional finishing hooks, and is freely linked with preceding and following letters in a way most closely paralleled in the Dacian waxes (cp. also tab. 2, cols. 19-22).

N is cursive in its curved members and in the combination of transverse and abbreviated second stem in a single line (cp. tab. 1, col. 3; tab. 2, cols. 24, 28).

O is roughly oval, its curve open or crossed (cp. tab. 1, cols. 1, 2, 10; tab. 2, cols. 1, 3, 4, 5, 6, 23).

P has cap stroke instead of bow, sometimes tied to stem (cp. tab. 1, col. 1; esp. tab. 2, cols. 11, 13, 16).

Q has small closed curve, with tail oblique right (cp. tab. 1, cols. 1-2; tab. 2, col. 1).

R has the cursive long curved stem with cap stroke (cp. tab. 1, cols. 3, 8; tab. 2, esp. line *q*, col. 23).

S has rough capital forms, beside the compressed curve and the form with stem and cap stroke common in tabs. 1 and 2.

T has occasional more or less curved and hooked strokes.

U is generally the simple curve, sometimes with finishing hook; two-stroke forms also occur, and one two-stroke angle whose sides intersect resembles *x* (cp. esp. tab. 1, cols. 6, 8; tab. 2, cols. 1, 10, 23; line *x*, col. 25).

X has one finishing hook.

Y and Z do not occur.

The letters, generally, have much in common with the forms in tabs. 1 and 2. The frequency and ease of ligature and the forms of the particular letters *a*, *c*, *i* (in ligature), *l*, *m* (in ligature), *n*, *o*, *p*, *r*, bring it perhaps nearer the period represented in tab. 2—say the latter half of the first century.

16. Berlin, Kgl. neues Museum, Aeg. Abth., P. 8507. Plate opp. p. 56.

Fragments of two *Orationes principis in senatu habitae*. The verso is written in Greek. 28.7 x 65-66 cm. Three pieces joined, of which the middle one is practically perfect, measuring 27.5 wide. Columns 1 and 3 lack about  $\frac{1}{4}$  their original width. Col. 1 is further mutilated at the bottom by the loss of a piece about 13.5 x 15.5 cm. The Latin writing runs along



the plant fibres. Published: Gradenwitz and Krebs, *Aeg. Urk.*, 2, no. 611; Steffens, pl. 4 (in facsimile); Gradenwitz, in Bruns, *Font. Iur. Rom.*, ed. 7, 198; Mitteis, in *Hermes* 32, p. 639 ff.; Ihm, in *Centralblatt f. Bibliothekswesen* 16(1899), p. 345, no. 15; Prou, p. 55, and plate, pp. 57-59, col. 1; Thompson, *Introd.*, p. 320, facs. no. 106; Blass, in *Lit. Centr.-Bl.* 1897, 687; Dareste, in *Nouv. Rev. hist.* 22, 687; Brassloff, in *Sav. Z.* 22, 169; Mitteis and Wilcken, II, ii, no. 370.

The letters, while in general of a type similar to those in tables 1-2 and the Pompeian waxes, have more curved and flourished strokes and present a distinctly cursive appearance. Letters standing at the ends of lines generally have a long flourish. Ligatures, somewhat more frequent than heretofore: *a* with *m, n, r, s, t*; *b* with *e, u*; *c* with *o*; *e* with *m, n, o, r, s, t*; *f* with *a*; *l* with *u*; *m* with *a, e*; *n* with *t*; *p* with *r*; *r* with *a, e, o, t*; *s* with *a, e*; *t* with *i*; *u* with *a, e, i, m, r, s*.

The only abbreviations are *p(atres)*, *c(onscripti)*. Words are generally separated: by the point in the middle of the line, a short dash (col. 2, l. 4; col. 3, l. 2, l. 20), a comma (col. 3, l. 11), an oblique dash with a point beneath (/.) (col. 3, l. 18). The separation mark is sometimes linked with a following letter. Not infrequently accents are marked. In col. 2, l. 2 and col. 3, l. 3, paragraphs are indicated by the setting of the first word in the margin.

A has the transverse regularly represented by a hook at left of second leg; rarely without hook; the legs are more or less flourished.

B has double-curved stem with bow at left; the lower extremity of stem links with following letter (cp. esp. tab. 1, col. 7; tab. 2, cols. 3, 8, 12).

C occurs in great variety; the high letter and the two-stroke, horizontally capped form are both very frequent; ligature with following letter is through base.

D is, without exception, the single-stroke uncial letter, often with prolonged bow line (cp. tab. 2, cols. 14, 15).

E is a compressed uncial, with variously placed transverse (cp. esp. tab. 2, cols. 3, 4, 10).

F shows both angular and rounded forms; the separate cap stroke, however, is general.

G has curve and tail in a single stroke; rarely the upper part of curve is replaced by a separate cap stroke (cp. tab. 2, cols. 1-5, 9, 10, etc.).

H is regularly made at a single stroke; transverse and shortened second stem are represented by a curve starting from base of first stem. These rounded cursive letters are considerably in advance of other forms in the papyri dating from the first and early second century (cp. tab. 2, col. 6; tab. 3, cols. 5, 20, 21).

I is in great variety; the stem goes freely above or below the line and is hooked at either end and on either side.

K is wanting.

L is either angular or curved; the base regularly extends slightly upward; the stem is often hooked left at top.

M has its angles curved so as to suggest uncial and minuscule letters rather than capital; ligature forms are very nearly minuscule (cp. tab. 2, cols. 4, 14, 17, 18).

N shows cursive tendency in the slight slurring of the three members into a single broken line; one ligature form suggests the minuscule (cp. tab. 2, col. 25).

O is always the simple-curve letter.

P has cap or wide open bow.

Q has its circle nearly or entirely closed, with tail extending downward to the right (cp. tab. 1 and tab. 2, cols. 7, 9).

R everywhere shows cursive forms, although the cap stroke is shorter and less sweeping than the more cursive forms of tab. 2; ligature with preceding letter is through either stem or cap, with following letter, through cap or arm.

S is, for the most part, a rough single-stroke letter; the straight cap or arm is not infrequent, especially in ligature.

T has, generally, straight lines; the stem is sometimes hooked; the cap stroke sometimes prolonged; a ligature form has stem linked to preceding letter (cp. tab. 2, col. 13).

U is the hastily written single-stroke curve or the angle most frequent in the *graffiti*; the ligature form, placed above the line, is not infrequent (cp. tab. 2, cols. 3, 18, 19).

X has one crossarm slightly curved.

Y and Z are lacking.

The papyrus has been dated by Gradenwitz and Krebs 41-54 A.D. on the following premises: (1) The *quinque decuriae* (col. 1, l. 1) were not established before the time of Caligula. (2) A question of the sort dealt with would have come under the *Senatus Consultum Turpilianum* after the time of Nero. (3) The style suggests the emperor Claudius. (4) The Greek writing on the verso points toward the first century. The first

argument establishes a *terminus post quem*; but the identity of an offence of delay in bringing a suit at law to completion and the *tergiversatio* of the *Senatus Consultum, Turpilianum* is doubtful, and the last two arguments, of course, only validate as corroborative. While most of the letter forms could well be of this date, certain newer forms, those of *d*, *g*, and the quite cursive *h*, *m*, *n*, *u* (in ligature), together with the frequency of ligatures, argue for a dating in the first part of the second century.

17. Berlin, Kgl. neues Museum, Aeg. Abth., P. 7815.

Provenance Fayûm. Three separate documents: one of uncertain content and two copies of edicts. Two fragments: Fragment 1, 16-19.6 x 48-49.4 cm.; three jointures; the whole was folded in 8 or 9 creases, where there are now breaks in the papyrus. Fragment 2, 31-32 x 6.7-7.2 cm.; two jointures; there are six breaks in the papyrus where it had been folded. The top of the verso corresponds to the bottom of the recto. Published: Gradenwitz, *Aeg. Urk.*, 2, no. 628 (facsimile of the recto, Taff. 1-2 in the same volume); *Id.*, in Bruns, *Font. Iur. Rom.*, ed. 7, p. 239; *Id.*, in *B.ph.W.* 1899, col. 1103; Mitteis, in *Hermes* 32 (1897), pp. 630-639; Ihm, no. 16, pp. 345-346; Mitteis and Wilcken, I, ii, no. 462; II, ii, no. 371; Dareste, in *Nouv. Rev. de droit fr. et étranger* 22, 69.

The three documents are in different hands which, however, are so similar as to leave no doubt of their being contemporaneous. Ligatures are fairly frequent: *a* with *d*, *e*, *h*, *r*, *t*; *b* with *i*; *c* with *c*, *i*, *s*; *d* with *a*, *i*, *r*; *e* with *a*, *c*, *i*, *m*, *n*, *o*, *q*, *r*, *s*, *t*, *x*; *f* with *i*, *r*; *g* with *a*, *e*; *h* with *e*; *n* with *n*; *o* with *n*, *r*; *p* with *r*; *r* with *a*, *e*, *i*, *o*; *s* with *a*, *e*, *i*, *s*; *t* with *a*, *e*, *i*, *o*, *p*, *r*, *u*; *u* with *n*.

The only abbreviations are *imp(erator)* and *s(upra)s(criptum)*. The latter is marked by points in the line.

A has pendant representing transverse at base of either leg, or lacks pendant.

B has double-curved stem, sometimes looped stem (new here), with bow at left (cp. tab. 3, col. 23, etc.).

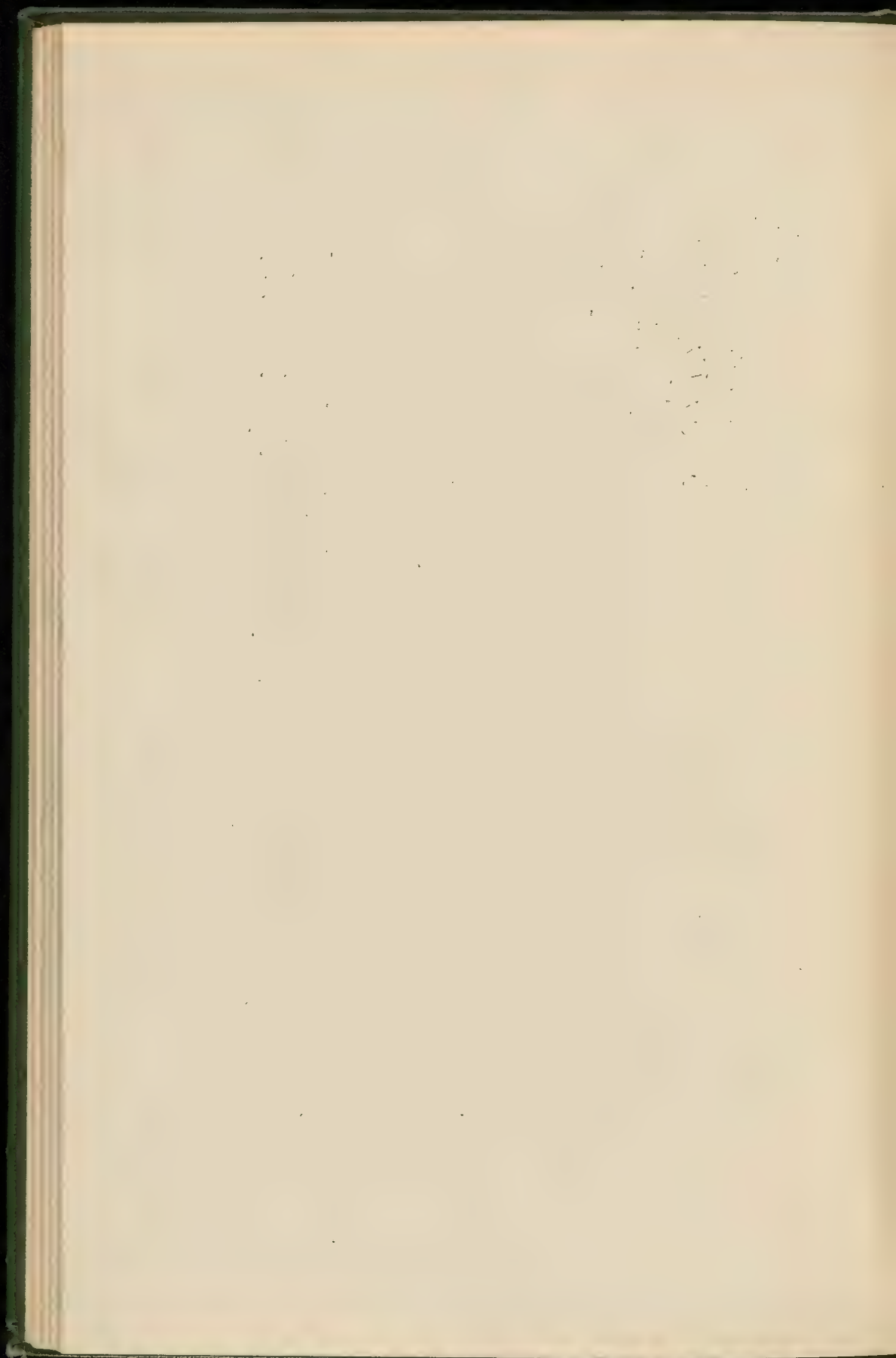
C has both the round and the two-stroke, capped form; ligature with following letter is through cap.

D is either the uncial or the two-stroke stem and bow; the base of stem links to following letter.









E is most frequently the roughly rounded capital or uncial; some broken-back forms appear, especially in ligature with preceding letter; new are single-stroke letters in which the cap bows back to the springing point of the transverse (cp. an approach to this form in tab. 2, col. 18; cp. tab. 3, cols. 7, 12, etc.).

F is cursive only in its curved strokes and freely placed cap and arm strokes; the arm links to following letter.

G has its tail in a backward bend of the large curve; the upper part of curve tends to flatten and lengthen; a new broken-back form occurs in ligature with preceding letter.

H has curved strokes but no rounding of angles.

I shows all the usual variety—long or short, straight or curved, hooked at either side, at base or top; one form finishes at top in a tie (cp. tab. 2, line *h*, col. 29; line *g*, col. 27).

K is wanting.

L generally has curved strokes, the base running below the line; the angle is occasionally rounded (cp. tab. 2, cols. 18-26).

M is the angular capital with curved strokes.

N shows cursive traits in occasional curves and in the varied position of the transverse; ligature with a following letter occurs at top of second stem (cp. tab. 1, col. 6).

O is round, open or closed, written with one or two strokes; links are tangent.

P has hooked stem and, generally, open or closed bow; in ligature with following letter, the bow opens to a curved cap stroke.

Q has closed or open curve, with tail oblique right, sometimes hooked left; the ligature, at top of the open curve, is new.

R is the single or two-stroke cursive letter; new is the ligature form in which the stem is a loop (cp. tab. 3, col. 16).

S is more or less straightened and flattened; separate cap strokes are frequent; unusual ligatures of *s* with following letter occur through cap or arm (cp. tab. 2, col. 7).

T shows both straight lines and sweeping curves; in a new ligature form, the stem links at top to preceding letter and the cap stroke lies a little space above (cp. tab. 3, col. 14).

U is generally the simple curve or angle, with occasional slight finials.

X has slightly curved lines.

Y and Z are wanting.

Mitteis proposes the time of Tiberius as a date for this

document: . . . "es [i.e. das Verso] ist aber von Werth für die Zeitbestimmung des Recto, insofern es, wenngleich keineswegs logisch sicher, so doch nicht unwahrscheinlich ist, dass die Verlesung dieses Edicts durch dessen relative Neuheit bedingt war, so dass das Verso und dann wohl auch das Recto in die frühe Kaiserzeit fällt. Dann wäre der Herrscher, der das im letzteren enthaltene Edict erlässt . . . wahrscheinlich Tiberius; an einen seiner nächsten Nachfolger kann wegen des *divus parens* und des Eulogiums in lin. 1 nicht gedacht werden."<sup>13</sup> That the writing of the papyrus is as early as this seems unlikely. The letters, in general, correspond to those of table 2; some of the letter forms are those of the later mss. within that group (e.g. *i*, *l*, *p*, *r*, *s*), some, even more advanced (esp. the new forms of *b*, *e*, *g*, *r*, *t*). It is not impossible that the edict of Augustus (verso col. 2, l. 2) may have been revived in considerably later time on some such occasion as that which it was framed to meet. *Divi parentis* might of course have been used of Vespasian by Titus or Domitian, of Nerva by Trajan, or of Trajan by Hadrian. Any of these dates (late first or, more likely, early second century) would be possible palaeographically; hardly the early first century.

17a. Marburg, Collectio Iandana, P. 103.<sup>14</sup> Plate opp. p. 60.

Rescript. 33 x 28.6 cm.<sup>15</sup> Published: Spiess, *Papyri Iandanae*, fasc. 4, no. 68 (with facs.).

A complete list of ligatures is impossible in a study of the facsimile alone: *a* links frequently with either preceding or following letter; *b*, occasionally with preceding; *c*, often with following; *d*, with following *i*; *e*, often with following (with preceding?); *i*, with preceding; *m*, occasionally with preceding or following; *o*, occasionally with preceding; *p*, occasionally with following; *r*, frequently with preceding, occasionally with following; *t* and *u*, occasionally with following.

A has two legs, without transverse; finishing hooks are occasional.

B has open or closed bow at left, and double-curved stem.

<sup>13</sup> Mitteis, p. 634.

<sup>14</sup> "Hae quoque chartae collectionis Iandanae quam propediem Gissam migraturam esse dolemus, emptae sunt per societatem quae vocatur *Deutsches Papyrskartell*"—Spiess, *l.c.*

<sup>15</sup> Description by Spiess. Studied in facsimile. References to tables are omitted as these pages were written after the ms. of the dissertation was already in the printer's hands.

C generally has separate cap stroke, often with upward flourish.

D is written with a single stroke; the stem is slightly oblique right and hooked or bowed right at top; ligature is through extension of bow line.

E is generally a compressed uncial; in some single-stroke forms lacking base, the arm springs from bottom of back.

F has cap and stem in a double curve.

G has curve and tail in a wide double curve; the cap has an upward flourish and is sometimes written with separate stroke.

H is an angular minuscule, sometimes with finishing hooks.

I, written alone, is long above the line, oblique or slightly curved; in ligature, generally runs below the line, curving left.

L is curved or angular; the base runs below the line.

M, except when linked with preceding letter, is a single-stroke angular capital form.

N has diminished second stem; the transverse sometimes springs from a point near the middle of first stem.

O is small, written slightly above the line; ligature with preceding letter is through tangent at top.

P has bow more or less open.

Q has small closed curve, and tail oblique right and hooked left.

R has curved or hooked stem, and curved or waved cap stroke.

S shows single-stroke forms with compressed double-curved or straight stem; one form has tie at base; the cap, sometimes written with separate stroke, is often flourished.

T has hooked stem, and straight or waved cap.

U is a simple curve or angle, written above the line in ligature with following letter.

X has one crossarm double-curved.

Y and Z are wanting.

The letters are, in general, those of the second century; *l, m, n, q*, as well as the comparatively small number of ligatures, indicate probably the first half of the second century.<sup>16</sup>

17b. Marburg, *Collectio Iandana*, P. 116.<sup>17</sup>

<sup>16</sup> Spiess dates "saec. p. Chr. II," cp. also his reading (col. i, ll. 24-25) *Divus quoque [Had]r[ianu]s*.

<sup>17</sup> Description by Spiess, who dates "saec. p. Chr. II."



Fragment of uncertain content. 6.3 x 4 cm. Published: Spiess, *Papyri Iandanae*, fasc. 4, no. 68a.

18. Oxford, Bodl. ms. Lat. class C 3 (P). Plate opp. p. 60. Provenance Oxyrhynchus. Letter to Julius Domitius, *tribunus militum*. 19.6 x 10.5 cm.<sup>18</sup> Published: Grenfell and Hunt, *Oxyrh. Pap.*, 1, 23, pp. 61-62 and pl. 8 (with facsimile); 2, p. 318; Wessely, *Schrifttafeln*, no. 50 (with facsimile).

The writing is very clear; the letters stand generally some distance apart. Ligatures are not very frequent: *e* with *n*, *r*, *s*; *r* with *i*.

Abbreviations: *mil(itum)*, *leg(ionis)*, *Aur(elio)*, *benef* and *b* (= *beneficiarius*), *ant(e)*. Words are generally separated by a point, sometimes simply by a space.

A has more or less curving leg strokes, no transverse or pendant.

B is a regular cursive.

C has generally the flat cap.

D is the quasi uncial, with stem hooked to left.

E is sometimes uncial, but, oftener, lacking base and cap, is a single-stroke angle (cp. tab. 2, cols. 3, 9, 11, 12, esp. 24).

F is capital, with slightly curved strokes.

G shows the curve with tail and long separate cap stroke.

H has more or less angular minuscule forms.

I shows comparative regularity; the finishing hook at top of stem, when it occurs, turns to the left; that at base, to the right.

L is regularly rounded and has its base extending downward; new is the form with bow at top of stem.

M is the angular capital, occasionally somewhat rounded.

N is capital.

O shows both single-stroke and two-stroke oval forms.

P shows more or less finished two-stroke, bowed forms.

Q has tail slightly to the left; the curve stands either separate from tail or joined to it at an angle.

R has the cursive long stem and cap or arm.

S has generally the two-stroke form, with rather straight cap or arm; the form in ligature seems to be a single stroke, a hook forming the link between the preceding letter and the stem which returns upon itself in a clubbing to join with arm (cp. tab. 1, col. 10; tab. 2, cols. 8, 12, etc.).

<sup>18</sup> Description by Grenfell and Hunt. Studied in facsimile.

T has both straight and curved strokes.

U is generally the simple curve or angle; in one form the second part of the curve returns upon itself in a tie giving the letter a minuscule character (cp. tab. 2, col. 27).

X has one crossarm curved.

Y and Z do not occur.

"The papyrus offers a good example of the Latin cursive of the second century, to which it may probably be assigned."<sup>19</sup> In spite of the few ligatures, on comparison with no. 12 ff., the forms of the letters (esp. *c*, *l*, *p*) seem to place it toward the middle of the second century.

19. Berlin, Kgl. neues Museum, Aeg. Abth., P. 6870.

Roll of the first Lusitanian cohort. On the verso some Greek writing. 11.4-34.7 x 17.2-23.8 cm. Two pieces rather badly joined, with the fibres of one piece perpendicular to those of the other. The piece to left is about 2.5 cm. wide and, on the recto side, contains no writing. Writing along the fibres. Published: Mommsen, *Laterculus Cohortis I. Lusitanorum A. CLVI*, in *Ephemeris Epigraphica* 7 (1892), pp. 456-467 (with facs.); *Id.*, in *Aeg. Urk.*, 2, no. 696; Bond and Thompson, *Pal. Soc.*, ser. 2, pl. 165 (facsimile); Wessely, *Schrifttafeln*, no. 6 (facsimile). Cp. Ihm, p. 345, no. 13; Prou, pp. 55-56 and plate pp. 57-59, col. 2.

The writing is in two different hands; the first is a rather pretty, rustic capital hand (col. 1, ll. 1-18, 22-24, 28-30; col. 2, ll. 14, 15, 22, 25, 32); the second, filling in the blanks left by the first scribe, is a cursive hand.

(a) In the first hand there are no ligatures. Abbreviations: *accesser(unt)*, *Aegypt(i)*, *Aeg(ypti)*, *Aug(ustae)*, 7 (*centuria*, *centurio*), *Cil(icum)*, *coh(ortis)*, *cos*, *dec(urio)*, *drom(edarii)*, *eq(ues)*, *eq(uitatae)*, *f(ilius)*, *Fl(avia)*, *kal(endas)*, *leg(io)*, *Lus(itanorum)*, *praef(ectos)*, *pr(aetoriae)*, *pr(idie)*, *Thrac(um)*, *Tr(aiana)*. Numerals are indicated by an overline. A single point in the middle of the line between words is the only punctuation.<sup>20</sup>

A (tab. 3, col. 4), without transverse, is the regular rustic capital and cursive letter.

<sup>19</sup> Grenfell and Hunt, *l.c.*

<sup>20</sup> Mommsen, *Aeg. Urk.*, note to l. 8.

B (tab. 3, col. 1) shows cursive tendency in the slight curving of stem and slurring of bows.

C (tab. 3, col. 1) is capital.

D (tab. 3, col. 1) is a peculiar single-stroke capital, the bow attached to base of stem by a tie as in our modern cursive capital (a similar tie is that in tab. 2, col. 13).

E (tab. 3, cols. 1, 2) has the compressed square-capital form, with occasional rounded angles.

F (tab. 3, col. 2) is a peculiar, somewhat cursive form, with stem hooked at top and base, and the cap and transverse joined in an angle.

G (tab. 3, col. 1) has a short tail tied to the curve.

H (tab. 3, col. 1) is capital.

I (tab. 3, cols. 1, 3) has slight finials, straight or hooked.

K (tab. 3, col. 1) has a hook at top of stem.

L (tab. 3, col. 1) is capital.

M (tab. 3, col. 2) is the angular capital.

N (tab. 3, col. 1) is capital.

O (tab. 2, cols. 1, 8) shows the single and two-stroke forms.

P (tab. 2, col. 1) resembles the general cursive forms with hooked stem and the bow capping the stem.

Q (tab. 3, col. 1) is capital, with prolonged tail.

R (tab. 3, cols. 1, 2) approaches the cursive in the curved stem and slurred bows.

S (tab. 3, cols. 1, 2) has fairly wide double curves.

T (tab. 3, col. 1) has a finishing hook at base.

U (tab. 3, col. 1) is a graceful simple curve.

X (tab. 3, col. 1) (occurring only in numbers) has one crossarm curved.

Y and Z do not occur.

(b) In the second hand ligatures are noticeable: *a* with *c*, *m*, *p*, *r*, *s*; *b* with *i*; *c* with *o*; *e* with *r*, *s*, *x*; *i* with *a*; *m* with *a*, *m*, *o*, *p*; *o* with *n*; *q* with *u*; *r* with *a*, *e*, *i*, *m*, *o*; *s* with *e*; *t* with *e*, *o*, *u*; *u* with *e*, *l*, *r*, *s*.

Numerals are indicated by an overline.

A (tab. 3, cols. 1-9) shows a great variety of curved strokes; the transverse is occasionally indicated by hook on either leg; links with preceding letter are at top of first leg, with following, at the base of second leg.

B (tab. 3, cols. 3-5, 10) shows the cursive form common in tab. 2.

C (tab. 3, cols. 2-5) varies between the simple curve and the curve with straight cap stroke.

D (tab. 3, cols. 2-6) shows variations of the quasi uncial letter, with stem more or less vertical and finished with hook or angle.

E (tab. 3, cols. 3-10) shows, beside the uncial letter, several new forms in which back and base of curve are made with the first stroke, the top of curve and the transverse, with the second; this small angle or curve, made by the second stroke, seems to be joined with the back in a single stroke in the form in col. 9.

F (tab. 3, cols. 1, 3) shows both rounded and angular forms.

G (tab. 3, cols. 2-5) shows an advance over the forms before noticed; the top of the curve is replaced by the flat cap as often heretofore, while the back and base of curve and the tail take the form of a double curve.

H (tab. 3, cols. 2-5), beside capital forms, has regularly a quasi minuscule form, with some rounded angles and finishing hooks.

I (tab. 3, cols. 1, 2, 4-13) shows the same variety in stem and finishing hooks as heretofore, a longer hook in col. 12; the stem hooks to the right at base, in ligature with a following letter (col. 5).

K (tab. 3, cols. 2, 3) has the cursive hooked stem and narrow, slightly rounded angle.

L (tab. 3, cols. 2-6) is regularly the single-stroke letter, curved or tied at the angle and extending beneath the line.

M (tab. 3, cols. 1-4) has the angular, slightly cursive form; ligatures occur at bases of stems (col. 4).

N (tab. 3, cols. 2-6) shows some new forms, similar to those noted in tab. 2 (cols. 16, 17, etc.); the slurred stroke representing the transverse and second stem here falls further toward base of first stem until it comes to be united with it in a tie or small loop; finishing hooks are frequent.

O (tab. 3, cols. 1-4, 9-11) is generally oval, often linked by tangent to preceding or following letter.

P (tab. 3, cols. 1-6) regularly has hooked stem and separate-stroke bow; the lower side of bow links to preceding letter (col. 6).

Q (tab. 3, col. 2) has tail oblique left.

R (tab. 3, cols. 3-6, 8) is oftenest made in a single-stroke, irregular double curve.



S (tab. 3, cols. 3-13) shows both the compressed double curve and the two-stroke form with stem and cap.

T (tab. 3, cols. 2, 3) has both stem and cap curved; the cap links to following letter.

U (tab. 3, cols. 2-5) is generally the small angle with sides curving inward; a simple curved letter, placed high in the line, sometimes so small that the letter is practically omitted, occurs in ligature with following letter.

X (tab. 3, cols. 2-7) has both crossarms curved.

Y (tab. 3, col. 1) shows its first single-stroke form, consisting of two arms joining at the base in a long tie.

Z is wanting.

The date is (col. 1, l. 2): *mensis Augusti Silvano et Augurino cos.*, i.e. 156 A.D.

20. Berlin, Kgl. neues Museum, Aeg. Abth., P. 7126.

Fragment of four lines, containing the dating and signatures of a document. One signature (l. 3) is in Greek. 13-15 x 20.8-21.5 cm. At the left edge are evidences of a jointure. Writing along the fibres. Unpublished.

The writing is clear and in a free cursive hand. Ligatures are fairly frequent: *a* with *c*, *l*, *r*; *c* with *c*; *k* with *a*; *o* with *r*, *s*; *r* with *a*, *f*; *s* with *s*; *t* with *e*, *i*; *u* with *s*.

A (tab. 3, cols. 10, 11) has free cursive strokes and links with letters on either side.

B does not occur.

C (tab. 3, col. 3) has flat cap stroke.

D (tab. 3, col. 7) is the single-stroke form, differing from the uncial in its nearly straight stem oblique right.

E (tab. 3, cols. 16-19) is the compressed uncial, with broken back when in ligature with a preceding letter.

F (tab. 3, col. 4) is cursive in its curved stem.

G and H are wanting.

I (tab. 3, cols. 14, 15, 17) is variously curved and finished.

K (tab. 3, cols. 4-6) has the cursive small angle and finials.

L (tab. 3, col. 7) has the rounded form with base extending downward; the stroke is hooked backward at both ends.

N (tab. 3, cols. 9, 10) has transverse lowered to the middle of first stem, and the diminished second stem.

O (tab. 3, cols. 12, 21) has its sides open or crossed, in ligature with following letter.

P (tab. 3, col. 7) is the common two-stroke letter.

Q is wanting.

R (tab. 3, cols. 10, 11) has long curving stem and cap or arm.

S (tab. 3, cols. 14, 16) shows a flattened capital letter, which sometimes links with following letter, and, in ligature after another letter, the two-stroke form with stem and arm.

T (tab. 3, cols. 4-6) has curved strokes.

U (tab. 3, cols. 6-8) is the simple-curve letter, with finishing hooks; a separate stroke links to a following letter.

X, Y and Z are wanting.

The date is (l. 2): *VIIII kal. Iunias Orfito et [Prüden]te cos.*, i.e. May 24, 165 A.D.

21. London, British Museum, Pap. CCXXIX.

Acquired in 1893. Deed of sale of a slave boy, in Latin with a mutilated subscription in Greek.  $14\frac{1}{2} \times 10\frac{3}{4}$  in.<sup>20a</sup> Published: *Catalogue of additions to the manuscripts in the British Museum in the years MDCCCLXXXVIII-MDCCC-XCIII*, London, 1894, p. 412; Thompson, in *Archaeologia* 54 (1895), pp. 433-438; *Introd.*, p. 322, facs. 107; Kenyon, F. G., *Greek Papyri in the British Museum, Catalogue with Texts*, vol. 2 (London, 1898), pp. XXI-XXII; Williams, pl. 72; Bond and Thompson, *Pal. Soc.*, ser. 2, 190 (with facsimile); Schulten, A., *Ein römischer Kaufvertrag auf Papyrus aus dem Jahr 166 n. Chr.*, in *Hermes* 32 (1897), pp. 273-289 (with facsimile); Arndt, *Schrifttafeln* (3rd ed.), no. 32 (with facsimile); Wessely, *Schrifttafeln*, no. 7 (with facsimile); Steffens, *Lat. Pal.*, no. 9 (with facsimile); Ihm, M., p. 347, no. 19; *Id.*, *Transfluminianus*, in *Archiv für lateinische Lexicographie* 10 (1896-1898), p. 549; Prou, p. 56, and plate pp. 57-59, col. 3.

At the top are seven seals—those of the contracting parties and the witnesses. The deed proper contains 19 lines which are followed by five signatures, one obscure line and a Greek subscription in two lines. The scribe's (ll. 1-19) hand is large and clear, at first glance presenting the general appearance of rustic capital writing. The individual letters are in many cases the forms of our earlier cursive monuments but are very regular even when, as frequently, in ligature. The hand of

<sup>20a</sup> Description according to *Catalogue of Additions* 1888-1893, p. 412. Studied in facsimile.

*Q. Iulius Priscus* (ll. 20-22) is a rough capital hand with some cursive elements. The signature of *C. Iulius Titianus* is in a small cramped hand, employing generally the characters of the scribe's hand. *C. Arruntius Valens* signs in an easy cursive hand, the letters nearly always in ligature. *C. Iulius Isidorus* writes in similar, but more disjointed characters. *G. Iulius Demetrius* employs rather rough cursive forms but few ligatures.

Ligatures: *a* with *b, d, e, l, m, n, r, s, t*; *b* with *a, b, u*; *c* with *i, o*; *d* with *e, f, i*; *e* with *a, c, d, e, i, l, m, n, o, p, r, s, t, u*; *f* with *a, i, l, u*; *h* with *a, e*; *i* with *a, u*; *k* with *a*; *m* with *a, i*; *n* with *e, i*; *o* with *i, r, s*; *p* with *e, i, o, r, u*; *r* with *a, e, i, n, o, r, u*; *s* with *e, i, s*; *t* with *a, c, e, i, o, r, u*; *u* with *i, l, s, t, u*; *x* with *i*.

Abbreviations: *℥* (*centurio*), *cos*, *kal(endas)*, *mil(es)*, *pr(aetoriae)*, *s(upra) s(cripta)*, *III (trieris)*, and the initials of praenomina. Numbers have an overline. The point (·) or angle (✓) generally follows an abbreviation. Paragraphs are indicated by large initial letters set into the margin.

The alphabet of the scribe's hand is here discussed, with mention of different forms found in the other hands:

A (tab. 3, cols. 7, 10, 13-15) shows a great variety of curved and straight-line forms; the transverse is rarely indicated at end of second leg.

B (tab. 3, cols. 2, 6, 10-12) has the regular cursive forms; new are the ties linking to following letter.

C (tab. 3, cols. 4, 7-13) generally has separate cap stroke.

D (tab. 3, cols. 8-15) shows, beside the two-stroke form and the uncial, a new approach to the minuscule (cols. 14, 15), where the stem of the uncial letter is tied so as to link with following letter; whereas, heretofore, the bow line has been prolonged across the stem to form this link.

E (tab. 3, cols. 8, 20-23) is the uncial letter, frequently with break in the back, where ligature with preceding letter occurs.

F (tab. 3, cols. 5-8) has regularly double-curved stem and cap.

G (tab. 2, cols. 7-9) has curve and tail in a single stroke, though not the more cursive double curve with flat cap.

H (tab. 3, cols. 6-11), while sometimes curved, generally has the angular appearance of the earlier cursives.

I (tab. 2, cols. 1-5, etc.; tab. 3, cols. 16, 18-24, etc.) shows



the frequent variety in the direction of the finishing hooks; ligature with following letter occurs at base, with preceding letter, at either base or top (cols. 18, 20-24).

K (tab. 3, col. 7) joins in ligature by the prolonging of lower side of angle.

L (tab. 3, cols. 4, 8-13) has the obtuse angle; the base is linked to stem, is in a continuous curve with it, or is made at a separate stroke, sometimes crossing it.

M (tab. 3, cols. 7-9, 11-13) is the angular letter, drawn with separate curved strokes.

N (tab. 3, cols. 11-13, 16) has capital forms with transverse irregularly placed on second stem; transverse and second stem are sometimes tied (col. 13).

O (tab. 3, cols. 1, 4, 12-15) generally has the oval form.

P (tab. 3, cols. 13-17) shows again our first-century letter both in ligature, where the open bow or cap forms the link, and standing alone.

Q (tab. 3, cols. 4-7), with tail to the right, is also a first-century form.

R (tab. 3, cols. 13-18) is regular except in the peculiar single-stroke form with looped stem (col. 15), standing both alone and in ligature.

S (tab. 3, cols. 3, 6, etc., 15-20) has straight or hooked stem with separate cap or arm stroke; in a few forms stem and arm are clubbed, folded, or looped together (cols. 17-18).

T (tab. 3, cols. 4, 7, 9-12) is, for the most part, regular; the form with widely hooked cap (cols. 9, 12) already suggestive of the Lombardic letter, the form with looped stem and half cap (col. 11), and the form with broken cap (col. 10) are unusual; ligature occurs through cap with either preceding or following letter, through stem with preceding letter.

U (tab. 3, cols. 4, 5, 9-19) shows various simple-curve or angular forms drawn with more or less flourish.

X (tab. 3, cols. 8, 9) is slightly curved; the lower right arm links with a following letter.

Y (tab. 3, cols. 2, 3) has the old form of stem capped by angle, beside a peculiar form with long-sided angle and no stem.

Z is wanting.

In the signature of Julius Priscus:

A (tab. 3, cols. 3, 4, 13, etc.) shows forms common to both rustic capital and cursive writing.



B (tab. 3, col. 7) is cursive.

C (tab. 3, col. 11) is regularly the quasi round capital.

D (tab. 3, col. 16) is the uncial-cursive letter made backward (cp. tab. 2, cols. 10, 11).

E (tab. 3, cols. 1, 2, etc.) is the slightly rounded capital.

F (tab. 3, col. 3), with stem double-curved, is properly cursive rather than capital.

G (tab. 3, col. 9), with long slurred curve and tail, is more cursive than in the scribe's hand.

H (tab. 3, col. 1) is capital.

I (tab. 3, cols. 1, 9, etc.) has curves and hooks like more cursive forms.

L (tab. 3, col. 11) is without finials but is otherwise similar to the cursives of the second century.

M (tab. 3, col. 10) is the angular capital.

N (tab. 3, col. 1, etc.) is capital.

O (tab. 3, col. 1) is oval.

P (tab. 3, cols. 11, 12), though less finished, is similar to the cursives (esp. col. 12).

Q (tab. 3, col. 3) resembles the cursives of the scribe's hand, though with a bow nearly as large as that of the capital.

R (tab. 3, col. 12) has only very slightly slurred bow.

S (tab. 3, cols. 8, 22-24) has the cursive form with separate cap or arm stroke.

T (tab. 3, col. 8) is capital.

U (tab. 3, cols. 2, 11, etc.) has slight cursive hooks.

Y (tab. 3, col. 4) has the angle rounded.

In the signature of Julius Titianus the following differences from the scribe's hand may be noted:

B (col. 8) resembles, very much, the uncial *d*; (col. 11) loops its stem at base to link with following letter.

D (col. 7) has only the uncial form.

E (cols. 24-26) is the uncial letter, sometimes compressed to simply a stem and short arm.

G (col. 6) shows less advanced cursive forms.

L (col. 7, etc.) has only the twisted single-stroke form.

N (cols. 1, 14; cp. cols. 9, 10) shows the transverse in varying positions on the second stem.

P (cols. 8-10) regularly has the bow.

The fourth hand differs slightly from the first. The forms of *e* (cols. 24-26) and *l* (col. 7) are similar to those in the hand of Titianus.

The fifth hand is like the first, with exception of the narrower *e* (col. 24), the less cursive *i* (cols. 2, 25, etc.), and the bowed *p* (col. 1, etc.).

The sixth hand has *p* only with the bow (col. 1, etc.), otherwise is quite similar to the scribe's hand.

The date is (ll. 18-19): . . . *VIII kal. Iunias Q. Servilio Pudente et A. Fufidio Pollione cos.*, i.e. May 24, 166 A.D.

"The date written in the Greek subscription, the numerals of which are in reverse order, is the year 274 of the era of the town of Seleucia, which began in B.C. 108, and is equivalent to A.D. 166."<sup>21</sup>

22. London, British Museum, Pap. DCCXXX.

Fragmentary conclusion of a letter or receipt. 8 x 9¼ in.<sup>22</sup>  
Published: Grenfell and Hunt, *Greek Papyri*, ser. 2, no. 108, pp. 157-158 and pl. 5 (with facsimile of lines 6-13); Wessely, *Schrifttafeln*, no. 10 (with facsimile, ll. 6-13); Ihm, in *Centrabl.*, pp. 347-348, no. 20; Wilcken, in *A.P.* 1, p. 373; Thompson, *Introd.*, p. 323, facs. no. 108; Mitteis and Wilcken, II, ii, no. 339.

The writing is in an easy cursive hand, broad and clear. Ligatures are, however, fairly frequent: *a* with *d*, *n*, *s*, *t*; *b* with *a*, *r*, *i*; *c* with *r*; *d* with *i*, *r*; *e* with *p*, *r*, *s*; *h* with *a*; *m* with *a*; *n* with *i*; *o* with *s*; *p* with *i*; *r* with *a*, *b*, *i*, *m*, *n*; *s* with *i*; *t* with *i*, *o*, *u*; *u* with *i*, *l*, *r*, *s*.

Abbreviations: *imp(eratore)*, and several accusative forms lacking the final *m* (ll. 3, 4, 11). The separation point occurs three times in l. 12.

A (tab. 3, cols. 5, 8, 10, 15, etc.) is our regular early cursive.

B (tab. 3, col. 10) occurs here only in ligature.

C (tab. 3, cols. 12, 14) has single-stroke forms; in the forms standing alone the base is at a sharp angle with back of curve.

D (tab. 3, cols. 17-20) shows the two-stroke form when standing alone or in ligature with preceding letter; in ligature with following letter the uncial form prolongs its bow to form connecting link.

E (tab. 3, cols. 3, etc., 24-26) shows the uncial letter in various degrees of compression until it consists of a back stroke, oblique or slightly curved, and a short arm; one form seems to tie these together in a single stroke (col. 25).

<sup>21</sup> *Pal. Soc.*, l.c.

<sup>22</sup> Description by Grenfell and Hunt. Studied in facsimile.

F does not occur.<sup>\*</sup>

G is wanting in the facsimile.<sup>1</sup>

H (tab. 3, col. 11) is again rather angular.

I (tab. 3, cols. 6, 25-27), long or short, regularly hooks or curves to the left at top; the shorter form also has hook to right at base.

K is wanting.

L (tab. 3, col. 14) is the long curved letter with finishing hook at top and lower extremity.

M (tab. 3, cols. 14-16) has close approaches to the minuscule, differing from it in that the first stem is written with separate stroke.

N (tab. 3, cols. 1, 18, 19) is still close to the capital form.

O (tab. 3, cols. 4, etc., 16, 17) is oval, sometimes with intersecting sides.

P (tab. 3, cols. 1, 15-19) shows the two-stroke and single-stroke bowed form and the form with open bow regular in ligature with following letter.

Q (tab. 3, cols. 8, 9) has tail to left and open bow.

R (tab. 3, cols. 3, 5, 14, etc., 19-21) is the regular two-stroke cursive, with examples of the single-stroke form (col. 5); less frequent are ligature forms in which the cap has been lowered to the position of an arm and then tied with stem in a single stroke (cols. 20, 21; cp. tab. 2, cols. 21, 22).

S (tab. 3, cols. 22, 24) is regularly made in two strokes—curved stem with separate cap or arm stroke.

T (tab. 3, cols. 1, 2, 13, etc.) has hooked stem, with generally straight cap stroke which links to letters on either side.

U (tab. 3, cols. 2, etc., 4, 6, 20, 21) shows the common early single and two-stroke cursives.

X, Y, and Z are wanting.

The date (ll. 12-13) is: *nonis Octobris imp. Vero ter et Umidio Quadrato consulatus*, i.e. October 7, 167 A.D.<sup>23</sup>

23. Berlin, Kgl. neues Museum, Aeg. Abth., P. 8866.

Fragment of fourteen lines. 15-19 x 9.3 cm. A space of 1.5 cm. between lines 1 and 2 may at one time have contained writing. Writing across the fibres. Unpublished.

<sup>\*</sup>Wilcken's (*l. c.*) reading of *p* in l. 9 seems preferable to the *f* of Grenfell and Hunt's first reading.

<sup>1</sup>Occurs, however, in the text, l. 3.

<sup>23</sup>The use of the word *consulatus* instead of *cos.* (i.e. *consulibus*) is unusual at this period. (Cp. de Rossi, *Insc. Christ.*, ch. 3, § 3).

The hand is a clear broad cursive. Ligatures are comparatively few: *c* with *o*; *e* with *o*, *r*, *t*; *r* with *i*; *t* with *e*.

A (tab. 3, cols. 15, 16) has the regular form of this period.

B (tab. 3, col. 13) is the cursive with double-curved stem and open bow.

C (tab. 3, cols. 12, 15, 16) has separate cap stroke.

D (tab. 3, cols. 21-23) has new transitional, uncial-minuscle forms with stem tied or looped close to the bow.

E (tab. 3, cols. 3, 17, 20, 22, 26) is the more or less compressed uncial.

F (tab. 3, col. 9) is cursive in its curved stem.

G (tab. 3, cols. 3, 10) has the newer, double-curve form, sometimes with separate cap stroke.

H is not clear but seems to resemble col. 13.

I (tab. 3, cols. 2, 28-30; line *h*, cols. 24, 26) is variously straight or curved; both hooks are generally on the same side.

N (tab. 3, cols. 20, 21) is a rough capital, with occasional finishing hooks.

O (tab. 3, cols. 4, etc., 10, 18-21) has the oval form, looped in ligature between two letters.

P (tab. 3, cols. 1, 20, 21) has the one-stroke and two-stroke bowed forms with comparatively large finishing hook.

Q (tab. 3, col. 10), with abbreviated bow, has tail curving to the right.

R (tab. 3, cols. 10, 22, etc.), standing alone, has cap; after another letter in ligature, arm stroke.

S (tab. 3, cols. 10, 22, 25, 26, etc.) has curved stem and separate cap or arm stroke.

T (tab. 3, cols. 6, 7, etc., 14) has both strokes curved; a preceding letter links to stem beneath cap stroke.

U (tab. 3, cols. 2, etc., 22, 23, etc.) is the simple curve or angle.

X, Y and Z do not occur.

The date is (l. 13): *Orfito et Rufo cos.*, i.e. 178 A.D.

24. London, British Museum, Pap. MCXCVI.

Provenance Kôm Ushîm. Latin military accounts. On the verso a name in Greek. 31 x 43 cm. The greater part of three continuous columns and some small fragments.<sup>24</sup> Writing

<sup>24</sup> Description by Grenfell and Hunt. Studied in photograph.



along the fibres. Published: Grenfell and Hunt, *Fayûm Pap.*, 105, p. 252.

The writing is in at least three different hands, all easy cursives, although the first two hands employ only the less advanced forms of *g* and *m* and less ligature. The letters are clear and of good size, and stand so close together as often to seem linked together when really distinct. The following ligatures are clear: *a* with *b, r, s*; *b* with *i, o*; *c* with *a, e, h, l, r*; *d* with *i, o, r*; *e* with *f, m, p, r, s*; *f* with *a, i, o*; *m* with *a, m*; *o* with *t*; *r* with *b, e, i, o, u*; *s* with *i*; *t* with *a, e, i, o, u*; *u* with *m, s*.

Abbreviations are used chiefly in expressing amounts of money:  $\text{X}$  (*denarius*), *s(emis)*, *(o)b(olus)*, *i (quarta?)*,  $\text{F}$  (*in toto?*). Final *us* is suspended from some proper names (e.g. *Hermofil*: col. 1, l. 22;  $\theta$ , at the beginning of col. 3, l. 26, probably stands for *obitus*. A dot is placed before each name. The sign indicating "total" is followed by a small angle,  $>$ .

A (tab. 3, cols. 5, 15, etc., 18-22) is the cursive letter with slight finishing hooks.

B (tab. 3, cols. 2, etc., 14, 15, 19, 20) is the cursive letter, linking at left of bow with preceding, and at base of stem with following letter.

C (tab. 3, cols. 16-18) regularly has the cap stroke, linking freely with a following letter.

D (tab. 3, cols. 2, 9, 23-26) has sometimes separate bow and stem, sometimes the single-stroke form with tied or looped stem, rarely an uncial form.

E (tab. 3, cols. 1, 3, etc., 14, 27-30) is the compressed uncial, often lacking base and, in ligature after another letter, cap stroke.

F (tab. 3, cols. 10-13) has, for cursive traits, the curved stem and the occasional combination of cap and transverse in a curve (cols. 13, 14) or of cap and stem by a tie (col. 11); the arm links freely with following letter.

G (tab. 3, cols. 2, 3, 12, etc., 11, 16, etc.) is generally a somewhat compressed double curve; the large curve and short tail occur in the first hand and in one of the fragments, sometimes with separate cap stroke.

H (tab. 3, cols. 12-15, etc.) has capital and cursive angular forms with curved and hooked strokes; the first stem links to preceding letter.

I (tab. 3, cols. 2, 9, 11, 14, 22, 27, etc.; line *h*, cols. 23-28) shows the common, variously curved and hooked stem; there is occasionally a separate short finishing cap (line *h*, col. 27).

K (tab. 3, col. 8) has the cursive small angle.

L (tab. 3, cols. 5, 9, 15, etc.) regularly curves downward.

M (tab. 3, cols. 20-26) varies from the rough angular capital to (in the third hand) the minuscule; ligature of the minuscule with preceding letter is through the doubled first, with following letter, through the last stem (cols. 24-26).

N (tab. 3, cols. 1, 22-26) is, variously, the capital, sometimes with full number of finishing hooks (col. 22), the cursive letter with lowered transverse and diminished second stem (cols. 23-25), or the minuscule (col. 26).

O (tab. 3, cols. 1-5, etc., 10, 21-25) is round, open or closed, written with one or two strokes, and links, at top on either side or by cross tangents, with adjoining letters.

P (tab. 3, cols. 1, 9, 21-23) has curved or hooked stem and nearly closed bow; ligature with preceding letter occurs at top of either bow or stem.

Q is wanting.

R (tab. 3, cols. 14, etc., 21-27) has double-curved stem and, generally, free cap stroke; and links freely at top of stem with preceding letter, at end of cap with following.

S (tab. 3, cols. 7, 8, etc., 24, 27-30) has, regularly, stem and cap or arm; also, frequently, stem doubled in club or loop.

T (tab. 3, cols. 1, 2, etc., 4, 15-18) has, oftenest, straight lines; ligature is through cap.

U (tab. 3, cols. 2, 4, 5, 16, 20, etc., 24-27) is regularly the single-stroke curve or angle, in ligature sometimes so slurred as to be hardly distinguishable.

X (tab. 3, col. 10) has one crossarm slightly curved.

Y (tab. 3, cols. 5, 6) consists of hooked stem and oblique arm, or of doubled stem hooked on either side.

Z is wanting.

"Concerning the date of the papyrus, the Latin cursive is of a similar type to that of the Berlin military roll of A.D. 156 . . . and may be approximately assigned to the latter half of the second century. The date will be more accurately fixed if the *Apollo[nius? strategus]* of the division of Heraclides, whose name is written on the verso in Greek cursive, is identical with the Apollonius or the Apollotas who are known

to have been strategi between A.D. 176 and 186 (XLI, and BGU. 194, 361.II). This date would very well suit both the Latin and Greek hands. But Apollonius is too common a name to allow us to regard this identification as being more than a probability."<sup>25</sup>

25. Berlin, Kgl. neues Museum, Aeg. Abth., P. 6866 A and P. 6866 B.

Provenance Fayûm. Several fragments of a military account.

(a) 6866 A. 35.5-36 x 7-23.5 cm. Two pieces joined, measuring respectively: 3.7-11.5 x 19.8 cm. and 9.5-25.5 x 1-23.5 cm. The headings (col. 1, ll. 2, 5, 11, 17, 18, 24, 25; col. 2, ll. 1, 7, 8, 14, 23, 30, 31, 37; col. 3, ll. 1, 5, 9, 12) are written in rustic capitals and the various items are added in cursive. Unpublished.

(b) P. 6866 B. Five fragments which belong to the same document as the preceding but do not fit together. *Frg. 1.* 5.8-7.2 x 3.8-4.2 cm. Fragmentary 8 lines. The ink is blacker and the writing is in thicker and straighter strokes than in the greater part of the document. Lines 1 and 8 are in rustic capitals. *Frg. 2.* About 12.8 x 1.5-3.5 cm. The ends of 17 lines. At the end of l. 13 is the beginning of a line of the next column. L. 6 has rustic capitals. *Frg. 3.* 10.2 x 1.2-2.5 cm. Fragments of 11 lines from the middle of a column. Traces of the beginning of another column about 1.7 cm. to the right. Lines 2 and 8 are in rustic capitals. *Frg. 4.* 5.7 x 1.8-4 cm. The ends of 9 lines; perhaps belonging above frg. 2, although, in its present glass covering, it has been placed below col. 1 of frg. 5, to which the color of the papyrus better corresponds, frgs. 1, 2, and part of 3, being rather whiter than the other fragments. Nothing but numerals can be read. *Frg. 5.* 5.5-19 x 0.6-9.5 cm. (greatest dimensions indicated by the fragment are 21.5 x 12 cm.). Fragments of 2 columns. In the margin additions have been made by the hand of frg. 1. Rustic capitals occur in col. 1, ll. 6, 7, 14; col. 2, ll. 7-9, 15, 21. Unpublished.

Ligatures: *a* with *b, c, m, t*; *b* with *e*; *c* with *c, o, t*; *d* with *e, i*; *e* with *b, i, m, n, o, p, r, t, x*; *i* with *a, t*; *l* with *a*; *m* with *p*; *r* with *a, i, o*; *t* with *e, i, u*; *u* with *l*.

Abbreviations: *castr*, *cos*, *dep(ositum)*,  $\text{X}$  (*denarius*),

<sup>25</sup> Grenfell and Hunt, *l.c.*



*imp(erator)*, *ob(olus)*, *s*, *se(?)* (*semis*), *scr(iba)* (?), *stip(endium)*. Abbreviations and numbers are sometimes marked with a straight or curved overline. In the rustic capital writing, words are generally separated by the point.

A (tab. 3, cols. 4, 16-21) has the usual curved strokes and linked forms.

B (tab. 3, cols. 16-22) shows usual forms, except (col. 22) the single-stroke letter in ligature resembling the quasi uncial letter.

C (tab. 3, cols. 19-23) has, except the small round forms (cols. 19, 20), separate cap stroke or angle (col. 21); ligature with following letter is by tie or hook of cap, with preceding, by hook at top of back.

D (tab. 3, cols. 3, 27-30) shows both the quasi uncial with vertical stem, tied at top to link with following letter, and, in ligature through the bow with preceding letter, sometimes the two-stroke form of bow and stem (col. 26).

E (tab. 3, cols. 2, 3, etc., 25, 26; line *f*, cols. 28, 29) has, beside the earlier rounded capital forms, the cursive angle or loop representing back and arm without cap and base—especially in ligature after another letter (col. 25; line *f*, cols. 28, 29).

F has hooked stem (cp. tab. 3, cols. 1, 9).

G (tab. 3, col. 10) has double curve with separate arm or cap.

H (tab. 3, col. 23) is the angular cursive.

I (tab. 3, cols. 2, 7, 13, 24, 27-30; line *h*, cols. 24, 26, 29, etc.) shows finishing hooks in the various positions on long or short stem.

K is wanting.

L (tab. 3, cols. 4, 5, 8, 17, 25-27) is regularly tilted downward, sometimes, especially before another letter in ligature, slightly upward.

M (tab. 3, col. 27) occurs in ligature in the quasi minuscule form.

N (tab. 3, cols. 1, 11, 18, etc.) is nearly capital.

O (tab. 3, cols. 1, 4, etc., 11, 21, 27) has the usual forms of this period.

P (tab. 3, cols. 1, 13, 24, 25) has hooked stem and closed bow; ligature with preceding letter is by link at top of stem, or at top of bow in a new single-stroke form with stem tied to lower side of bow (col. 25).



Q (tab. 3, cols. 12-14) has tail very slightly oblique right.

R (tab. 3, cols. 5, 6, 17, 27) has, when standing alone, stem and arm in a single stroke; when in ligature, the arm is written with separate stroke.

S (tab. 3, cols. 6, 8, etc.; line *t*, col. 24) has straight or curved stem with separate cap stroke.

T (tab. 3, cols. 1, 9, 15, 19, 23) has both curved and rounded forms; the cap links to letters on both sides.

U (tab. 3, cols. 2, etc., 19, 28) is the simple angle or curve.

X (tab. 3, cols. 7, etc., 11) has slightly curved strokes.

Y and Z are lacking.

At several points in the various fragments there are fragmentary consular dates: (P. 6866 A, col. 2, l. 30) *Presente II et Contiano II cos.*, i.e. perhaps 180 A.D. (*Presente II et Condiano*); (P. 6866 B, frg. 5, col. 1, l. 6) — *ptimiano II cos.*, i.e., perhaps, 190 A.D. (*Commodo VI et Septimiano*).

26. Oxford, Queen's College.

A declaration of birth. Lines 1-7 are in Latin, line 8 in Greek.<sup>26</sup> 9.4 x 10.8 cm. Published: Grenfell and Hunt, *Oxyrh. Pap.*, 6, no. 894 (p. 213) and pl. 6 (with facsimile); Mitteis and Wilcken, no. 213.

Ligatures are few: *a* with *b*, *e*; *h* with *o*; *t* with *i*, *u*.

Abbreviations: *Alexandr(ia)*, *Aug(ustus)*, *hab(it)*, *imp(erator)*, *L(ucius)*, *praef(ectus)*. The separation point is frequent.

A (tab. 3, cols. 15, 21, 24) has simple cursive forms.

B (tab. 3, cols. 23, 24) has the stem bowed, sometimes in a single stroke with bow (col. 24).

C (tab. 3, col. 3, etc.) has the regular separate cap stroke.

D (tab. 3, cols. 17, 18) has regular two-stroke forms with straight stem.

E (tab. 3, cols. 3, 17, etc.) has the narrow rounded form.

F (tab. 3, cols. 6, 14, 15) has either the separate cap stroke or the double-curved stem and cap.

G (tab. 3, col. 13) has long tail and separate cap stroke.

H (tab. 3, cols. 16, 17) is angular; in ligature the transverse forms the link to following letter.

I (tab. 3, cols. 6, 9; line *h*, col. 30, etc.) has, regularly, the top hooked left.

<sup>26</sup> Description according to Grenfell and Hunt. Studied in facsimile.

K is wanting.

L (tab. 3, cols. 3, 4, 15, etc.) is curved and runs below the line.

M (tab. 3, cols. 1, 9, etc.) is the angular capital with cursive flourishes.

N (tab. 3, cols. 11, 12) resembles the capital.

O (tab. 3, col. 10) is oval and is linked to preceding letter by tangent.

P (tab. 3, col. 1, etc.) has curved stem with separate-stroke bow.

Q does not occur.

R (tab. 3, col. 28, etc.) is the regular two-stroke form written with a flourish.

S (tab. 3, cols. 3, 22, etc.) has flat cap, though sometimes written with single stroke.

T (tab. 3, col. 4, etc.) has slightly curved strokes.

U (tab. 3, col. 29) shows advanced single-stroke minuscule forms consisting of a curve tied to a following short stem.

X (tab. 3, col. 12) has both crossarms curved.

Y (tab. 3, cols. 7, 8) is the more cursive letter, the sides of the angle tied or looped together in a single stroke.

Z does not occur.

The date is partly legible: (l. 1) *anno . . . imp. Cae[sa]ris*

*L. [Septimi Severi Pii Perti]naxis Aug. A[rabi]ci Adiabenici;*

(l. 4) *[apud Marcum Ulpium Pri]mianum praef. Aegypti.*<sup>27</sup>

"M. Ulpius Primianus is the only praefect with a name ending in *-ianus* who is known in the sole reign of Severus and, though the list is not certainly complete, the three praefects who held office during this short period cover it quite sufficiently. There is therefore good ground for identifying the praefect of the papyrus with Primianus whose name occurs in two inscriptions."<sup>28 m</sup> The probable date is, then, 194-196 A.D.

27. Morgan Collection.

Provenance Oxyrhynchus. Fragment of a military account

<sup>27</sup> As supplied by Grenfell and Hunt.

<sup>28</sup> Grenfell and Hunt, *l.c.*

<sup>m</sup> The inscriptions cited are: C. I. G. III, 4863, col. IV (194-195 A.D.) and C. I. L. III, 51 (Feb. 24-25, 196 A.D.). A. P. 2, p. 447, no. 77 (= C. I. G. III, 4701 b, p. 1189, April 21, 194 A.D.) and Berlin P. 6865 (*Aeg. Urk.*, 15, col. 2, l. 1, July 11, 197 A.D.) are cited to give the nearest dates respectively of the predecessor and successor of Primianus.

with copy of a receipt written in Greek (col. 2, lines 5-11). 12.5 x 16.4 cm.<sup>29</sup> The writing is in three columns; of column 1 only a few Latin letters remain. Published: Grenfell and Hunt, *Oxyrh. Pap.*, 4, no. 735, pp. 227-228 and pl. 5 (with facsimile).

Ligatures are much more frequent than in earlier papyri: *a* with *b, c, d, e, l, n, r, u*; *b* with *a, d, e, i, u*; *c* with *h, o, u*; *d* with *c, i, o, u*; *e* with *b, c, d, g, i, l, m, n, r, s, u, x*; *g* with *a, n, r*; *m* with *a, e*; *o* with *r, s*; *r* with *i, o, r, u*; *s* with *a, e, i*; *t* with *e, h*; *u* with *s*.

A (tab. 3, cols. 8-10, 22, etc.) shows its common forms, regularly in ligature.

B (tab. 3, cols. 10, 12, etc.) shows the usual forms, but stands regularly in ligature, the bow linked to preceding letter, the stem, to following.

C (tab. 3, cols. 7, etc., 12, 13, 24, 25) is uniformly a small letter, generally having separate cap stroke; in ligature the back is linked with the preceding letter, the cap, with following

D (tab. 3, cols. 26, 27, 29, 30) is uniformly a single-stroke letter, with short tied stem; in ligature the bow is linked to preceding letter and the tie of stem joins following letter.

E (tab. 3, col. 3, etc.; line *f*, cols. 21-23) is a compressed uncial when standing first in ligature; in ligature with preceding letter, back and base of curve are attached to that letter and the second stroke includes top of curve, in a bow, and arm (line *f*, cols. 23, 24).

F (tab. 3, col. 15) is the slightly rounded capital.

G (tab. 3, cols. 13-15) shows both the older form with large curve and oblique tail and the double-curved tail; both with flat cap, which links to following letter.

H (tab. 3, cols. 13, 14, 16, 18, 23) has generally the angular form; unique is the single-stroke form with first stem looped to join transverse.

I (tab. 3, cols. 2, 22; line *h*, cols. 25, 26, 30; line *g*, col. 24) is generally short; the finishing hook is regularly to left of top and the stem slants or curves downward to the left; the hook, in ligature with preceding letter, sometimes becomes a tie (line *g*, col. 24).

K does not occur.

L (tab. 3, cols. 4, etc., 28) has the finishing hook and the obtuse, rounded angle.

<sup>29</sup> As described by Grenfell and Hunt. Studied in facsimile.

M (tab. 3, cols. 28, 29) has the cursive angular form; in ligature, the first stem unites with preceding letter, the last stem, sometimes by a tie, with following letter.

N (tab. 3, cols. 28, 29) is capital.

O (tab. 3, cols. 2, 24, etc., 11, 15, 27, etc.) is oval, sometimes small and placed high in the line; links to preceding and following letters are formed by tangents.

P (tab. 3, cols. 11, 26) has the regular two-stroke form with bow and stem.

Q is wanting.

R (tab. 3, col. 22; line *q*, cols. 27, 28) has straight or curved stem and cap, frequently in ligature between two letters.

S (tab. 3, cols. 19, 28; line *t*, cols. 25-27) has the separate-stroke arm or the single-stroke form with stem doubled at an angle (i.e. folded) or with tie. Both forms occur in ligature; line *t*, cols. 25-27 represent the ligature of *us*.

T (tab. 3, cols. 1, 15, 20) has generally straight strokes.

U (tab. 3, cols. 4, 5, 9, 27; line *x*, col. 27) has the simple curved form, in ligature often slurred so as to be indistinguishable.

X (tab. 3, col. 13) links with preceding letter by fold of upper left arm.

Y is wanting.

Z (tab. 3, cols. 1, 2) has slightly curved strokes.

"The receipt is dated in the fourteenth year of a joint reign (col. 1, l. 10), which on palaeographical grounds is probably that of Septimius Severus and Caracalla,"<sup>30</sup> i.e. 205 A.D.

28. Oxford, Queen's College.

Declaration of inheritance with an affidavit and signatures in Greek. 26 x 56 cm. Writing along the fibres. The writing is in seven different hands, of which the first, sixth, and seventh are in Latin.<sup>31</sup> Published: Hunt, *Oxyrh. Pap.*, 8, no. 1114 (pp. 192-196), and pl. 7 (facsimile of col. 1, lines 2-17).

The first hand, shown in the facsimile, is a clear, easy, sloping cursive. Ligatures: *a* with *c*, *r*, *s*; *e* with *c*, *i*, *l*, *m*, *s*, *u*; *f* with *a*; *h* with *a*, *i*; *i* with *t*; *m* with *a*, *e*, *i*, *m*, *p*, *u*; *n* with *a*; *o* with *r*, *s*; *p* with *a*, *l*, *o*, *r*; *r* with *a*, *i*; *s* with *s*; *t* with *a*, *i*, *r*; *u* with *e*, *l*, *r*, *s*, *x*; *x* with *o*.

<sup>30</sup> Grenfell and Hunt, *l.c.*

<sup>31</sup> Description by Hunt. Studied in facsimile.



Abbreviations: *id(us)*, *Iul(ias)*, *non(as)*, *pr(idie)*, *q(ui) e(t vocatur)*, *q(uae) p(roximae) f(uerunt)*. Abbreviations are marked by point. The point separating words is occasional; similarly a short dash (e.g. l. 5).

A (tab. 3, cols. 9, etc., 23, 24) is our regular cursive; beside the more usual ligature forms, the first leg is sometimes tied to preceding letter.

B (tab. 3, cols. 2, 25 etc.) has hooked or bowed stem.

C (tab. 3, cols. 4, 15, etc., 26-28) regularly has separate cap stroke; the broken-back form is occasional in ligature after another letter; peculiar is a looped form lacking base, resembling cursive *s* (col. 28).

D (tab. 3, col. 22; line *c*, col. 29) is written with a single stroke, like the common uncial or quasi uncial forms, but has its stem curved and hooked right.

E (tab. 3, cols. 26, 30, etc.; line *f*, cols. 24-28) has, beside the compressed uncial, regularly the single-stroke-angle form, frequently linked with following letter, or with preceding letter in hook or tie.

F (tab. 3, cols. 16-19) has longer curved strokes than earlier forms; cap and transverse are frequently combined in a curve.

G (tab. 3, cols. 16, 17) has the earlier large curve and short tail, sometimes with separate cap stroke.

H (tab. 3, cols. 19-21) has new single-stroke forms with bow at top of stem; ligatures with following letter are occasional.

I (tab. 3, col. 9, etc.; line *h*, cols. 24, 26, 27; line *g*, cols. 24-29) has, beside the older, straight, curved, or hooked forms, newer forms with bow, cap or tie at top. In one form (line *g*, col. 26) the cap links with letters on both sides.

K is wanting.

L (tab. 3, cols. 14-17, etc., 20, 21) has either acute or obtuse angle; the hook at top of stem is generally nearly or entirely closed so as to form a bow.

M (tab. 3, cols. 1, etc., 5, 6, 28, 30; line *l*, col. 30) is the rounded angular capital, unusually frequent in ligature.

N (tab. 3, cols. 21, 25, 30, etc.) generally has lowered transverse and diminished second stem.

O (tab. 3, cols. 2, 3, 10, 21, etc., 25, 26) has, beside the common variations of the round single-stroke letter, a curve open at top, with sides hooking outward to link with adjoining letters.

P (tab. 3, cols. 15, etc., 27-29) shows the form with hooked stem and, generally, separate arm stroke; one single-stroke ligature form has looped stem, linking to preceding letter, as the arm links to following.

Q (tab. 3, cols. 15-17) has generally closed curve with tail appended either directly to the circle or to a prolongation of one side of it, and slanting slightly left.

R (tab. 3, cols. 3, 7, 20, etc.; line *q*, col. 29) has a slightly curved cursive single-stroke or two-stroke form.

S (tab. 3, cols. 10, 12, 23, 28, etc.; line *t*, cols. 27-30) has, beside the old double-curved letter, forms with separate cap or arm, and ligature forms with clubbed or tied stem with hook at either side.

T (tab. 3, cols. 4, etc., 21) has narrow hook at base of stem; the cap is straight.

U (tab. 3, cols. 4, 5, etc.; line *x*, cols. 27-29) is the simple curved letter, with little or no finish.

X (tab. 3, cols. 14-15) has both crossarms curved.

Y (tab. 3, cols. 9-11) has both the open single-stroke form and the form in ligature with stem and left arm in separate strokes.

Z is wanting.

The date is: (col. 1, l. 1) *Perpet[uo et Corneliano cos. . .]*; (col. 1, ll. 16-19) *Ἔτους τρίτου Αὐτοκράτορος Καίσαρος Γαίου Ἰουλίου Οὐήρου Μαξιμείνου Εὐσεβοῦς Εὐτυχοῦς Σεβαστοῦ Γερμανικοῦ Μεγίστου Δακικοῦ Σαρματικοῦ Μεγίστου καὶ Γαίου Ἰουλίου Οὐήρου Μαξίμου Γερμανικοῦ Μεγίστου Δακικοῦ Μεγίστου Σαρματικοῦ Μεγίστου τοῦ ἱερωτάτου Καίσαρος Σεβαστοῦ νιοῦ τοῦ Σεβαστοῦ Ἐπειφ ιβ;* (col 2, l. 36) *pr. non. Iul. Perpetuo et Corneliano cos. notavi pr. id. Iul. . . .*, i.e. July 14, 237 A.D.

28a. Oxford, Queen's College. Plate opp. p. 89.

Petition to praefect. 13.1 x 8 cm.<sup>82</sup> Published: Grenfell and Hunt, *Oxyrh. Pap.*, 10, no. 1271 (with facs.).

Ligatures: *a* with *d*, *l*, *s*, *t*; *c* with *l*; *d* with *e*; *e* with *n*, *s*; *f* with *i*; *m* with *u*, *x*; *n* with *t*; *r* with *e*, *i*, *m*; *s* with *d*(?), *e*, *i*(?), *s*(?); *t* with *t*(?), *u*; *u* with *m*, *s*. The abbreviation *sal(utem)* is a probable reading in l. 2.

*A* is written with two strokes, with high second leg; in l. 2, there may be an angular minuscule.

*B* is wanting.

<sup>82</sup> Description by Grenfell and Hunt. Studied in facsimile. References to tables are here omitted as these pages were written after the rest of the ms. was already in the printer's hands.

C is tall and compressed, with break in back near base.

D, standing alone, is written with two strokes, with hooked stem; in ligature between other letters, the form is a rapidly written uncial.

E shows a rare single-stroke form, with arm springing from bottom of back in a tie, and lacking base.

F has clubbed stem-and-cap stroke, with arm in a second stroke.

G and H are wanting.

I is straight or curved or hooked left.

K(?) has upper arm springing from base.

L, written with a single stroke, has base curving below the line, with final hook left.

M and N are minuscule, linking with both preceding and following letters.

O is a roughly made oval.

P has bow closed, and stem hooked right at base.

Q does not occur.

R has separate-stroke, waved cap.

S has looped, folded, or clubbed stem, and links freely with preceding and following letters.

T is written with either two strokes, left half cap linking with preceding letter, or one stroke, with stem looped or clubbed so that the letter is not distinguishable from *e* or *s*.<sup>a</sup>

U is either a simple curve or a minuscule.

X (numeral) has slightly curved crossarms.

Y and Z are wanting.

The date is (ll. 6-7 of the Latin): *datum XVII k*.....

*Presenti A[lbino cos.]*, i.e. 246 A.D.  
.....

29. Oxford, Bodl. Lat. class. g 12 (P).

A petition for a guardian, with signature in Greek, and the praefect's reply. 21.5 x 9.8 cm.<sup>33</sup> Published: Grenfell and Hunt, *Oxyrh. Pap.*, 4, no. 720, pp. 196-197, and pl. 7 (with facsimile). Cp. Thompson, *Introd.*, p. 325, facs. no. 109; Prou, p. 56 and table pp. 57-59, col. 5.

The first hand (ll. 1-7), probably that of a scribe, is very clear and easy. The letters stand close together but there are comparatively few ligatures. The hand of the praefect is

<sup>a</sup> The last form in the table above is *s*, misplaced in the table.

<sup>33</sup> Description by Grenfell and Hunt. Studied in facsimile.

somewhat rougher and lacks ligatures. Ligatures: *e* with *m*; *f* with *i*; *h* with *i*; *m* with *i*, *o*; *p* with *o*, *p*; *r* with *i*, *o*; *t* with *i*, *o*.

Abbreviations: *Aug(ustus)*, *Aurel(ius)*, [C]*l(audius)*, *dat(um)*, *dd nn (domini nostri)*, *Iul(ia) leg(e)*. The point in the line occurs after abbreviations and, occasionally, between words. The numeral is marked by ∫.

A (tab. 3, cols. 6, 16, etc.) has flourished cursive forms.

B (tab. 3, col. 19, etc.) has the cursive form with angular finish.

C (tab. 3, cols. 14, 16, etc.) is a narrow curve, with curved or flat cap.

D (tab. 3, line *c*, col. 30) is made with a single stroke, and has its stem oblique right with tie at top; the bow line is prolonged across the stem.

E (tab. 3, line *f*, cols. 24-29) is regularly made with a single stroke, the curve reduced to a nearly straight line which at the base joins the arm in angle or tie.

F (tab. 3, col. 20) seems to have cap and transverse in a single curved stroke.

G (tab. 3, cols. 18, 19) has a peculiar large form in which the tail is represented by the waving of base.

H (tab. 3, col. 22) has bowed stem; in this new form the transverse is a wavy curve upward from base of first stem; and the second stem forms the upper part of the letter *i* which runs below the line.

I (tab. 3, cols. 4, 24, etc.; line *g*, col. 30) bends or hooks to the right; the form with small loop at base is unusual.

K is wanting.

L (tab. 3, cols. 22, 23) has curved back but flat base.

M (tab. 3, cols. 1, 24, 30) has developed angular capital forms.

N (tab. 3, cols. 23, 30) has transverse and second stem slurred in an arm stroke.

O (tab. 3, cols. 2, etc., 10, 24, 26) is oval.

P (tab. 3, cols. 17, 18, 30) shows the older forms, bow replaced by cap stroke.

Q does not occur.

R (tab. 3, cols. 28-30) has flourished cursive forms.

S (tab. 3, line *t*, col. 30) shows straight or curved stem with slightly flattened cap.



T (tab. 3, cols. 20, 22) has slight curves; the finishing hook at left of stem is unusual.

U (tab. 3, cols. 7, 23, 30, etc.) is a simple curve or angle.

X, Y, and Z are wanting.

In the second hand the following letters show different forms, perhaps due to the age or inexperience of the writer.

A (tab. 3, cols. 25, 26) seems to have the transverse or pendant of the capital letter.

B (tab. 3, cols. 26, 27) is nearly capital.

D (tab. 3, line *b*, col. 30), if, as it appears, made at one stroke, with double-looped stem, is a new cursive form.

E (tab. 3, col. 17, etc.) is the compressed uncial.

G (tab. 3, col. 20) is the double-curved cursive letter.

L (tab. 3, cols. 24, 25) carries the base stroke below the line in a curve.

N (tab. 3, col. 9) has the cursive form but is written with three strokes.

O (tab. 3, cols. 1, 11) is oval.

P (tab. 3, col. 11) has the bow.

Q (tab. 3, col. 18) has closed circle and tail running toward the left.

The document bears the date (ll. 6-7): . . . *Philippo Aug. II [et] Philippo Caesaris cos.*, i.e. 247 A.D.

29a. Giessen, Universitätsbibliothek, Inv. Nr. 40.

"Agnitio bonorum possessio." Latin (ll. 1-8) with Greek translation (ll. 9-17). Published: Eger, in *Sav. Z.* 32 (1911), pp. 378-382.

Abbreviations: *a(uctore)*, *b(onorum)*, *cos*, *dat(um)*, *e(t)*, *inpub(ere)*, *kal(endas)*, *p(ossessionem)*, *praef(ecto)*, *q(ui)*, *t(utore)*.

The date is (ll. 7-8): *dat. XVIII kal. [Oct.] Aemiliano II et Aquilino cos.*, i.e. Sept. 14, 249 A.D.

30. Location?

"21.5 x 8.4 cm. Ends of 20 lines, of which the first three are a heading of a Latin list of persons (slaves?) with their ages and property, . . ." "second century?" Description by Grenfell, Hunt, and Smyly, *Tebt. Pap.*, 2, 687, p. 334.

31. Oxford, Queen's College.

Provenance Harit. A fragment of Ulpian, *Ad Edictum*,





Bk. 45 (*Dig.* 29, 1, 1). On the verso some writing in Greek. 6.4 x 5.5 cm.<sup>34</sup> Published: Grenfell and Hunt, *Fayûm Pap.*, no. 10, pp. 99-100, and pl. 6 (with facsimile). Cp. *Oxyrh. Pap.*, 4, p. 263; Plasberg, O., *Ein lateinisches Papyrusfragment (Ulpian?)*, in *Wochenschrift f. klassische Philologie* 18 (1901), cols. 141-142.

The writing is clear and well spaced, in spite of a certain number of ligatures:° *a* with *e*; *d* with *u*; *e* with *r*; *m* with *e*, *i*; *r* with *i*, *o*.

A has the regular forms of tab. 3, without transverse or pendant.

B is a carefully formed cursive (cp. tab. 2, col. 14; tab. 3, col. 2).

C is a minuscule form but has the rather square appearance of the flat-topped cursive letter (cp. tab. 2, cols. 1, 12, etc.; tab. 3, cols. 2, 7, 19).

D shows the two-stroke form, and, standing either alone or in ligature with a following letter, the uncial form with stem tied or looped (cp. tab. 3, cols. 15, 21).

E has the uncial form, sometimes more or less compressed.

F has the curved stem with a crossarm.

G and H are wanting.

I generally has finishing hook right at top and left at bottom; unusual is the ligature at base with preceding letter (cp. tab. 3, col. 21; line *g*, col. 26).

K does not occur.

L is rounded and runs below the line (cp. tab. 2, col. 11 ff.; tab. 3, col. 7, etc.).

M shows the angular capital and a near approach to the uncial letter in the rounding of the two upper angles (cp. tab. 2, cols. 4, 14, 25, etc.; tab. 3, cols. 5, 16).

N is capital; the ligature at base of first stem is unique.

O is the regular oval.

P has curved stem and separate-stroke open bow.

Q has tail slanting toward the right, then curving backward to the left (cp. tab. 2, col. 13; tab. 3, col. 14).

R appears as capital at the beginning of a line; elsewhere in the single-stroke cursive form (cp. tab. 2, col. 5; tab. 3, col. 5, etc.).

<sup>34</sup> Description by Grenfell and Hunt. The facsimile shows traces of writing at the left of the text. Studied in facsimile.

° Grenfell and Hunt (*l.c.*) style the writing "semicursive."



S shows three different forms: the compressed double curve, a similar form flattened at top, and the double-curved stem with straight arm.

T is made with either straight or curved strokes (cp. esp. tab. 3, col. 6).

U shows the simple curve, except a single form which seems to have the final short stem (cp. tab. 2; tab. 3, esp. col. 29).

X has both crossarms curved.

Y and Z do not occur.

"On the verso of the papyrus is some Greek cursive of about the middle of the third century, which provides a *terminus ad quem* for the Latin writing on the *recto*. The latter probably falls within the first half of that century; it might be as early as the end of the second."<sup>35</sup> The forms of the letters seem to place this papyrus fully as early as those just under discussion. In particular, the downward curving *l* is most common in the second century, while the looped stem of *d* occurs first toward the end of that century. Since the fragment has been recognized as belonging to Ulpian's *Ad Edictum*, a *terminus a quo* is given, viz. about 193 A.D.,<sup>36</sup> and we are probably safe in dating the fragment in the early third century—perhaps still within the lifetime of Ulpian.

32. Cairo, Museum, 10745. Plate opp. p. 89.

Recto, ends of 13 lines of an account in Latin; verso, parts of 2 columns of an account in Greek. 17.5 x 10.5 cm.<sup>37</sup> Notice in Grenfell and Hunt, *Catalogue*, no. 10745.

The writing is in a small, rapid cursive hand, difficult to read in photograph. The following ligatures are distinguishable: *a* with *b*; *e* with *b*, *d*; *m* with *m*; *t* with *i*; *u* with *m*.

Abbreviations: *d(ebet)*, *dep(ositum)*, *s(emis)*. The mark of abbreviation is a horizontal stroke through the upper part of the letter, or the sign 3.

A seems to have developed the finishing hook of the first leg into the left side of the curve of the cursive minuscule (cp. tab. 2, col. 25; tab. 3, cols. 2, 8, etc.; tab. 4, col. 7, etc.).

B has the two-stroke form with simple stem, frequently in ligature between other letters (cp. tabs. 2, 3).

<sup>35</sup> Grenfell and Hunt, *l.c.*

<sup>36</sup> Plasberg, *l.c.*

<sup>37</sup> Description by Grenfell and Hunt. Studied in photograph.

C is round, sometimes with flat or flourished cap (cp. tabs. 2, 3).

D has an unusual vertical-stem form; the stem sometimes clubbed in a single stroke with the bow (cp. tab. 2, col. 7; tab. 3, cols. 18, 27; esp. tab. 4, cols. 2, 8, etc.).

E is a compressed uncial.

F and G are wanting.

H is a straight-stem minuscule (cp. tab. 4, col. 7).

I is short or long and straight, bowed, or, in ligature, tied (cp. tab. 3, col. 2; line *g*, col. 29; esp. tab. 4, col. 10).

K and L are wanting.

M is minuscule, with first stem going below the line (cp. tab. 2, col. 29; tab. 3, cols. 20, 27; tab. 4, col. 2, etc.).

N is capital.

O, P, and Q are wanting.

R is a single-stroke angular cursive (cp. tab. 3, line *q*, col. 29).

S has regularly the form with separate cap; the clubbed stem also occurs (cp. tab. 2, cols. 22, 28, etc.; tab. 3, cols. 22, 28).

T has freely curved strokes (cp. tab. 3, col. 12, etc.).

U is the simple curve (cp. tabs. 2, 3, 4).

X has slightly curved strokes.

Y and Z are wanting.

The dating by Grenfell and Hunt is, of the recto, second century, of the verso, second or third century. It is questionable whether the recto-verso order of writing can be surely maintained in all mss., especially those as late as this appears to be (cp. no. 23),<sup>38</sup> and the advanced forms of *a*, *d*, *h*, *i*, occurring with forms which are older, it is true, but which also demonstrably (cp. tab. 4) persist later, argue for the third century.

33. Vienna, Hofbibliothek, Sammlung Rainer. Plate opp. p. 89.

Fragment of an account. 16.5 x 13.5 cm. Published: Wessely, *Schrifttafeln*, no. 11 (with facsimile). Cp. Ihm, no. 6, p. 343.

The writing has a quite cursive appearance, with long strokes and frequent ligatures: *a*(?) with *r*; *c* with *e*, *t*; *e*

<sup>38</sup>Cp. Schubart, W., *Das Buch bei den Griechen und Römern* (Berlin, 1907), p. 9; Kenyon, *Catalogue*, no. 337 (168 A.D.), no. 439 (181-189 A.D.), etc.

with *m*, *x*; *o* with *r*; *r* with *e*, *i*; *t* with *i*, *o*, *r*, *u*; *u* with *m*, *n*, *s*.

There are no abbreviations, except the sign  $\text{X}$  (*denarii*).

A is the regular two-stroke cursive (cp. tab. 2, cols. 13, 19; tab. 3, cols. 21, 24).

B is regular (cp. tab. 2, col. 14, etc.; tab. 3, col. 2, etc.).

C generally has the separate cap stroke; the curve has an angular tendency at base (cp. tab. 2, col. 12, etc.; tab. 3, cols. 5, 14).

D is the regular single-stroke cursive with stem hooked right (cp. tab. 3, col. 29).

E has both single and two-stroke forms; in ligature the back is linked with preceding letter by angle or tie, and the arm, near or attached to base, links to following letter (cp. tab. 2, cols. 15, 17, 19; tab. 3, line *f*, cols. 27-30.).

F does not occur.

G is a rough, disjointed capital (cp. tab. 2, col. 8).

H is wanting.

I is long or short and has the various finishing hooks (cp. tabs. 2, 3).

K and L are wanting.

M, linked to a preceding letter, with its rounded angles and doubled first stem, is quasi minuscule rather than uncial.

N shows the slurring of transverse and second stem; in the last form this slurred line is tied to base of first stem in a single-stroke letter (cp. tab. 2, cols. 12, 14, 16; tab. 3, cols. 6, 7, 30, etc.).

O is oval (cp. esp. tab. 3, col. 24).

P does not occur.

Q has tail to the left (cp. tab. 2, col. 9, etc.; tab. 3, col. 9, etc.).

R occurs in ligature, having either arm or cap stroke; in the first form the cap forms the link with both preceding and following letters (cp. tabs. 2, 3).

S has the separate arm or cap stroke (cp. tab. 2, cols. 3, 13; line *u*, col. 25; tab. 3, cols. 8, 10, 21, etc.).

T has more or less curved strokes; the last form shows the cap broken to link with preceding and following letters (cp. tab. 3, esp. col. 14).

U has the simple curved form (cp. tab. 2, cols. 1, etc., 18-20; tab. 3, cols. 4, 5, 22, 26; line *x*, col. 29).

X has crossarms curved and freely placed.







Y and Z are wanting.

The more cursive letters (esp. *d, e, m, n, r, t*) and the frequency of ligature favor a date in the late second or early third century.<sup>p</sup>

34. Strassburg, Universitäts- und Landesbibliothek, P. gr. 1777, Recto.

Fragment of a letter. 9 x 20 cm. "Der Brief ist, um die freie Rückseite anderweitig benützen zu können, in kleinere Stücke zerschnitten worden; nur dasjenige Stück, welches den griechischen Familienbrief des *Απολλινάριος* trägt (P. Str. 37), ist uns erhalten."<sup>89</sup> The fragment contains nine lines, the last of which is illegible. The broken edges of the papyrus make doubtful the letters at the ends of lines. Published: Preisigke, Friedrich, *Griechische Papyrus der Kaiserlichen Universitäts- und Landesbibliothek zu Strassburg im Elsass*, 2, no. 36 (with facsimile).

The writing is quite cursive; the stems, caps, and tails of the letters are unusually long and flourished. Ligatures are almost continuous: *a* with *r, t*; *c* with *l, t*; *e* with *c, n, s, t*; *f* with *e, f, r, u*; *r* with *a, i*; *t* with *r, u*; *u* with *e, r*.<sup>q</sup>

Preisigke reads the abbreviations (l. 1) *s(alutem) d(icit)* and (l. 6) *cl(arissimi)*; an accent in l. 1.

A has the two-stroke cursive forms, with hook or tie in ligature before another letter (cp. esp. tab. 3, cols. 8, 19, 22).

B is a regular cursive, except the long looped stroke representing the bow (cp. tab. 2, col. 12; tab. 3, col. 3).

C has flat cap stroke which sometimes links to following letter; a preceding letter links to the back (cp. tab. 2, cols. 5, 16, etc.; tab. 3, col. 3, etc.).

D is not plain in the facsimile.

E regularly shows the compressed uncial form; the cap and transverse are sometimes united in a curved stroke (cp. tab. 2, cols. 3, 4, 16, etc.; tab. 3, cols. 3, 10, 14, 15). The form with tied stem is new.

F shows curved or hooked stem; in the last form the cap stroke has fallen to the position of an arm (cp. tab. 2, cols. 1, 4, 14; tab. 3, cols. 4, 6, 18).

G is wanting.

<sup>p</sup> "II. Jahrh."—Wessely, *l.c.*

<sup>89</sup> Description by Preisigke. Studied in facsimile.

<sup>q</sup> I have drawn only from the clearer part of the facsimile.

H is not clear in the facsimile.

I is long, and hooked, bowed, or tied (cp. tab. 2, line *h*, cols. 23, 24; tab. 3, col. 24; line *h*, cols. 24, 25, 29; line *g*, col. 29).

K does not occur.

L has elaborate hooks, and base curved far below the line (cp. tab. 2, col. 11; tab. 3, cols. 5, 7, 14).

M has a minuscule form and a similar form with long first stem, resembling the Greek  $\mu$  (cp. tab. 2, cols. 10, 16, 27; tab. 3, cols. 15, 16, 18).

N shows a new variation of the capital, with long first stem similar to that of *m* (cp. tab. 3, col. 2).

O is regular.

P is wanting.

Q has tail oblique left (cp. esp. tab. 2, col. 10; tab. 3, cols. 12, 13).

R generally has long, curved or bent stem and arm (cp. tab. 2, col. 18; tab. 3, cols. 9, 19, 20).

S has short arm or angle in a disconnected stroke; the angle is new (cp. tab. 2, col. 17).

T has long, curved and hooked stem; in ligature, the broken cap stroke, or intersecting stem and cap (cp. tab. 2, cols. 13, 19, 21, 24).

U is the simple curve, sometimes linked by tie to following letter (cp. tab. 2, cols. 1, 18, etc.; tab. 3, line *x*, cols. 27, 29).

X, Y, and Z are wanting.

The uncertainty of the reading of the dim facsimile is a drawback to dating the fragment with certainty. Comparison with tables 2 and 3 (esp. the letters *e*, *l*, *m*, *n*) seems to show that it dates from probably the late second or, possibly, the early third century.<sup>r</sup>

35. Berlin, Kgl. neues Museum, Aeg. Abth., P. 6765. Plate opp. p. 93.

Fragment of an account. 11.5-12.6 x 8.7-9.2 cm. Two pieces joined, measuring respectively 6 cm. and 4 cm. in width. Writing along the fibres. Unpublished.

Ligatures: *a* with *b*, *c*, *m*, *n*, *p*, *r*, *t*; *b* with *a*, *r*; *c* with *a*; *e* with *g*, *i*, *l*, *r*, *s*, *u*; *g* with *i*; *k* with *a*; *m* with *a*; *r* with *a*, *i*; *t* with *a*, *h*, *i*, *u*; *u* with *l*, *m*, *n*.

A is the cursive letter with curved and hooked legs, frequently linked by hook or tie (cp. esp. tab. 3, cols. 8-11, 20).

<sup>r</sup> Preisigke says third century.

B has separate bow, which links with preceding letter; the stem has hook nearly closed to a bow, and links with following letter (cp. esp. tab. 2, col. 13; tab. 3, cols. 12-15).

C has a somewhat angular appearance; ligature occurs at top of back and right of base.

D is wanting.

E is a compressed uncial, freely linked (cp. tab. 2, cols. 3-5, 16, 17, 28-30; tab. 3, cols. 3, 11, 14, 26).

F varies, with straight and curved cap (cp. tab. 2, cols. 1, 4, etc.; tab. 3, cols. 3, 4, 6, etc.).

G is transitional from the form with large curve to the double-curved letter (cp. tab. 3, cols. 3-5, 13, 14); a new form is the last one in the table above, with double curve turned right to link with following letter, with horizontal link to preceding letter (cp. tab. 3, cols. 3, 12; tab. 4, col. 17).

H is angular; unusual is the ligature with preceding letter through transverse.

I is short or long, often in ligature; hooks or bows are regularly at left of top, at right below (cp. tab. 2, cols. 19, 21, 23, 24; line *h*, col. 24; tab. 3, cols. 13, 14, 22, 27; the bowed form in line *g*, col. 29).

K has hooked stem, and curved angle linking to following letter (cp. tab. 2, cols. 9, 10; tab. 3, cols. 6, 7).

L is curved, generally in a wide obtuse angle (cp. tab. 2, cols. 11, 14, etc.; tab. 3, cols. 1, 4, 5, 13, etc.).

M is variously the angular capital and the quasi minuscule with long first stem (cp. tab. 2, cols. 1, 15, 16; tab. 3, cols. 1, 25, 29).

N is the cursive with lowered transverse and diminished second stem (cp. tab. 2, cols. 10-12, 16, 17, 26-28; tab. 3, cols. 7, 8, 23, 30).

O is oval.

P is a single-stroke, curved letter with bow (cp. tab. 2, col. 5; tab. 3, cols. 9, 19).

Q has bow open beneath, with tail oblique left and hooked right (cp. tab. 3, col. 11).

R is cursive, with separate cap or, in ligature, either arm or cap; occasionally a clubbed stem (cp. tab. 2, cols. 8, 12, 14, 15, 17, 22; tab. 3, cols. 14, 17, 18, 21, 24, 25).

S shows both the double curve with flattened cap and the two-stroke form with separate arm stroke (cp. tab. 2, cols. 1, 3, 5, 9, 28; tab. 3, cols. 3, 16, 20).



T has more or less curved strokes; ligature with preceding letter is through top of stem beneath the cap (cp. tab. 2, cols. 1, 4, 10; tab. 3, cols. 1, 8, 14). The downward widely curving cap in ligature with a following letter is new (cp. tab. 4, col. 3, etc.).

U is the simple curve or angle; placed above the line in ligature with following letter (cp. tab. 2, cols. 1, 8, 18, 20; line *x*, col. 24; tab. 3, cols. 4, 5, 21, 22).

X, Y, and Z are wanting.

The forms of *h* and *l* associate this ms. with the earlier papyri of table 3; those of *b*, *g*, *i*, *t*, with the later; the date is probably late second century.

36. Berlin, Kgl. neues Museum, Aeg. Abth., P. 8906. Plate opp. p. 93.

Fragment of a letter(?). On the verso, the address(?). 14.8 x 6.5-12.2 cm. Space at bottom about 3.5 cm., at the lower right-hand corner of which are traces of the beginning of another line. Writing along the fibres. Unpublished.

Ligatures: *a* with *m*, *n*, *s*; *b* with *e*; *e* with *i*, *m*, *o*, *r*, *s*, *t*; *h* with *o*; *m* with *i*, *o*; *r* with *a*, *n*; *t* with *a*, *i*, *o*, *t*; *u* with *a*, *m*, *n*, *s*.

A is cursive and stands frequently in ligature, though with few curves and finishing hooks (cp. tab. 2, cols. 12, 13, 18; tab. 3, cols. 11, 12, 15).

B is the two-stroke cursive (cp. tab. 2, cols. 2, 3, 8, etc.; tab. 3, cols. 2, 3, 14, etc.).

C is the compressed curve or the form with straight cap stroke (cp. tab. 2, cols. 5, 7, 13; tab. 3, cols. 3, 6, 7, 26).

D is the single-stroke cursive with stem oblique and hooked right (cp. tab. 2, cols. 4, 17; tab. 3, line *c*, col. 29).

E has the compressed uncial or the cursive form lacking base, with arm springing from foot of stem in angle or tie (cp. tab. 2, cols. 3, 9, 11, 19; tab. 3, cols. 3, 17, 25; line *f*, cols. 26-29).

F is wanting.

G has wide open curve with approximately vertical tail and flat cap stroke (cp. tab. 2, col. 16; tab. 3, col. 2).

H has peculiar three-stroke minuscule forms, with finishing hooks on both stems; ligature is through transverse (cp. tab. 3, cols. 8-12).

I is regularly hooked or tied left at top (cp. tab. 3, cols. 6, 13, etc.; line *h*, cols. 28-30; line *g*, col. 24).



[illegible]

No. 37

[illegible]

No. 38

K and L are wanting.

M has the quasi minuscule form, with long first stem (cp. tab. 2, cols. 16-18, etc.; tab. 3, cols. 15, 16, 25-27, etc.).

N has lowered transverse and diminished second stem, sometimes these members looped in a single stroke (cp. tab. 2, cols. 10-12, 16, 17, 26-28; tab. 3, cols. 5-10).

O is oval and linked by hook or tangent (cp. tab. 2, cols. 1, 6, 12; tab. 3, cols. 1, 10, 24).

P has separate-stroke bow and stem; ligature is through top of bow (cp. tab. 2, col. 27; tab. 3, cols. 1, 23, etc.).

Q is wanting.

R has cursive stem and cap or, in ligature with preceding letter, arm (cp. tab. 2, cols. 13, 15, 17; line *q*, col. 24; tab. 3, cols. 8, 10, 14, 29).

S has straight or hooked stem and straight arm (tab. 2, cols. 15, 21, 28; tab. 3, cols. 6, 24).

T has more or less curved strokes; cap and stem intersect in ligature with preceding letter (cp. tab. 2, cols. 4, 11, 13, etc.; tab. 3, cols. 1, 4, etc.).

U is the cursive simple-curve letter, written above the line when in ligature with following letter (cp. tab. 2, cols. 1, 17, 18, etc.; tab. 3, cols. 4, 5, 7, 16, etc.).

X, Y, and Z are wanting.

The forms of the letters, *e*, *i*, *m*, *n* in particular, seem to indicate the middle or end of the second or the early third century.

37. Berlin, Kgl. neues Museum, Aeg. Abth. P. 6101.

Fragment of a letter (?). 8-10.9 x 3.5-7.8 cm. Writing along the fibres. Unpublished.

The writing is fairly large, clear, and well spaced. Ligatures: *a* with *b*, *d*, *r*; *c* with *r*; *d* with *a*; *e* with *m*, *o*, *r*, *s*; *g* with *r*; *h* with *a*, *o*; *p* with *t*; *r* with *a*, *u*; *s* with *i*, *s*; *t* with *a*, *i*; *u* with *m*, *n*, *s*.

The point in the line occurs in l. 5. A few accents are marked.

A is the regular two-stroke cursive (cp. tab. 2, cols. 13, 24; tab. 3, cols. 10, 11).

B has double-curved stem with open bow (cp. tab. 2, cols. 2, 13; tab. 3, cols. 12, 17, etc.).

C has separate cap stroke (cp. tab. 2, col. 6; tab. 3, col. 17, etc.).



D has the single-stroke form with stem hooked, bowed, or tied to the right (cp. tab. 3, cols. 27, 29, 30; line *c*, col. 29).

E is a more or less compressed uncial with freely placed arm (cp. tab. 2, cols. 16, 19, 22; tab. 3, cols. 3, 21, 26, etc.).

F has curved stem with cap and arm in an angle (cp. tab. 2, col. 14; tab. 3, cols. 2, 14).

G has a somewhat new form, with double curve hooked at top and linked with following letter (cp. tab. 3, cols. 3, 14).

H has hooked strokes, but without rounding of angles (cp. tab. 2, col. 7; tab. 3, cols. 9, 11).

I shows finishing hooks in the various positions, at top \* sometimes replaced by cap or arm (cp. tab. 2, cols. 8, 12, 13; line *g*, cols. 28, 30; tab. 3, cols. 6, 14; line *h*, cols. 26, 27; line *g*, cols. 25, 26).

K is wanting.

L is curved, with occasional hooked stem, and goes below the line (cp. tab. 2, cols. 11, 21, 24; tab. 3, cols. 4, 5, 15).

M varies between the angular capital and, in ligature, the minuscule with long first stem (cp. tab. 2, cols. 4, 13, 14, 17; tab. 3, cols. 4, 6, 27, 29).

N shows transverse only slightly lowered and fairly long second stem (cp. tab. 2, cols. 3, 11, etc.; tab. 3, cols. 22, 24).

O is oval (cp. tab. 2, cols. 1, 2, 6, 11; tab. 2, cols. 1, 22, 27).

P has cap instead of bow (cp. tab. 2, cols. 11-14; tab. 3, cols. 15-18).

Q is wanting.

R shows, variously, the two-stroke letter with cap or arm and the single-stroke letter uniting arm and stem; the stem is simple, folded, or clubbed (cp. tab. 2, cols. 5, 16, 17, 22; tab. 3, cols. 6, 7, 13, 19-21).

S has generally separate stem and arm, sometimes the single-stroke form with folded stem (cp. tab. 2, cols. 7, 8, 16, 28; line *t*, col. 28; line *u*, col. 25; tab. 3, cols. 10, 16, 18, 21, 29).

T has hooked stem and, generally, straight cap (cp. tab. 2, cols. 4, 11, etc.; tab. 3, cols. 1, 4, etc.).

U is the simple curve or angle, above the line in ligature (cp. tab. 2, cols. 1, 6, etc., 18-20; tab. 3, cols. 2-5, 23, etc.).

X, Y, and Z are lacking.

The advanced cursive forms of *d*, *g*, *r*, *s*, balanced with the earlier forms of *e*, *h*, *l*, *m*, *n*, date this papyrus probably in the late second or early third century.

38. Florence.<sup>40</sup> Plate opp. p. 97.

Recto, fragmentary letters; verso, accounts. Bilingual, Greek and (fragments of the registry of a *familia gladiatoria*: over cols. 1-2; over intercolumniation of cols. 1-2; col. 2, over lines 4-6, l. 22, l. 24, at left of last four lines and in lower margin, at right of l. 25, lower margin at right side; over intercolumniation of cols. 2-3; col. 3, upper margin, over lines 4-5; col. 4, upper margin, at ends of lines 1-5) Latin. 33 x 88 cm. Published: Comparetti, D., *Papiri Fiorentini*, no. 278.

Ligatures: *a* with *d, e, f, m, r, t, u*; *c* with *a*; *d* with *i, o*; *e* with *l, n, r, s, t, u*; *f* with *a, e, r, u*; *g* with *l, u*; *l* with *i*; *m* with *c, i*; *o* with *r, s, t*; *p* with *a, r*; *r* with *e, i, n, s, t, u*; *s* with *c, e, m, s, t*; *t* with *a, e, i, n, o, q*; *u* with *f, i, l, m, n, s, u*.

Abbreviations: *Aug(ustas)*, *kal(endas)*, *Caes, n(oster)* or *n(umero)*, *Numer(ius)*, *famil(iae) glad(iatoriae)*.

A has legs curved, hooked, or double curved; the transverse is occasionally indicated by downward hook of second leg (cp. tab. 3, cols. 5, 8, 13, 18, 21, 24).

B has bow at right closed, and stem either double-curved or looped (cp. tab. 3, cols. 2, 24; tab. 4, col. 2).

C is laterally compressed; the cap is generally written with a second stroke (cp. tab. 2, cols. 4, 8, 11, 17, 18; tab. 3, cols. 3, 12, 18, 26).

D is written with either one or two strokes; the stem is simple, hooked, or, in ligature with following letter, tied (cp. tab. 2, cols. 17, 18; tab. 3, cols. 13, 18, 26, 27, 29, 30).

E is laterally compressed, often lacking base; in a single-stroke form the arm springs from lowest point of back (cp. tab. 3, cols. 6, 18, 24, 26, 28; line *f*, cols. 24, 25, 27-29).

F has cap and stem in one stroke, with arm in a second stroke, or initial hook and stem in the first stroke, with arm and cap in a second stroke (cp. tab. 2, cols. 11, 18; tab. 3, cols. 7, 18).

G is rather narrow, with large curve long above the line or hooked downward; the tail curves outward or downward, in one form making the letter resemble *s* (cp. tab. 3, cols. 3, 12, 16-18).

H is a single-stroke letter, with wide initial hook and low curving second member (cp. tab. 3, col. 19).

<sup>40</sup> Description by Comparetti. Studied in facsimile.

I is variously straight, curved right or left; at top hooked left or, in ligature, tied; at bottom, in ligature, sometimes hooked right (cp. tab. 2, cols. 10, 14, 29; tab. 3, cols. 2, 20, 22, 30; line *h*, cols. 26, 28, 30).

K has arms combined in a curve (cp. tab. 3, col. 4).

L is angular, curved, or double-curved; ligature with preceding letter is through hook or tie at top of stem, with following, through hook or tie at right of base (cp. tab. 2, cols. 19, 20; tab. 3, cols. 11-13, 15, 18).

M is generally a rough angular capital, sometimes with long first stem like the Greek letter, sometimes, following another letter in ligature, nearly minuscule (cp. tab. 2, cols. 10, 18-22; tab. 3, cols. 10, 17, 18, 23, 26).

N shows both the capital and the form with diminished second stem with transverse springing from either middle or base of first stem (cp. tab. 2, cols. 3, 10-12, 16; tab. 3, cols. 1, 3, 5-7, 9).

O is oval, sometimes with prolongation of one side; ligature is through hook, tangent, or intersecting tangents (cp. tab. 2, cols. 1, 2, 9, 10, 21, 27; tab. 3, cols. 1, 5, 7, 11, 12, 23, 24, 26).

P has bow open or replaced by wave line which links with following letter (cp. tab. 2, cols. 17, 18; tab. 3, cols. 14, 15, 24).

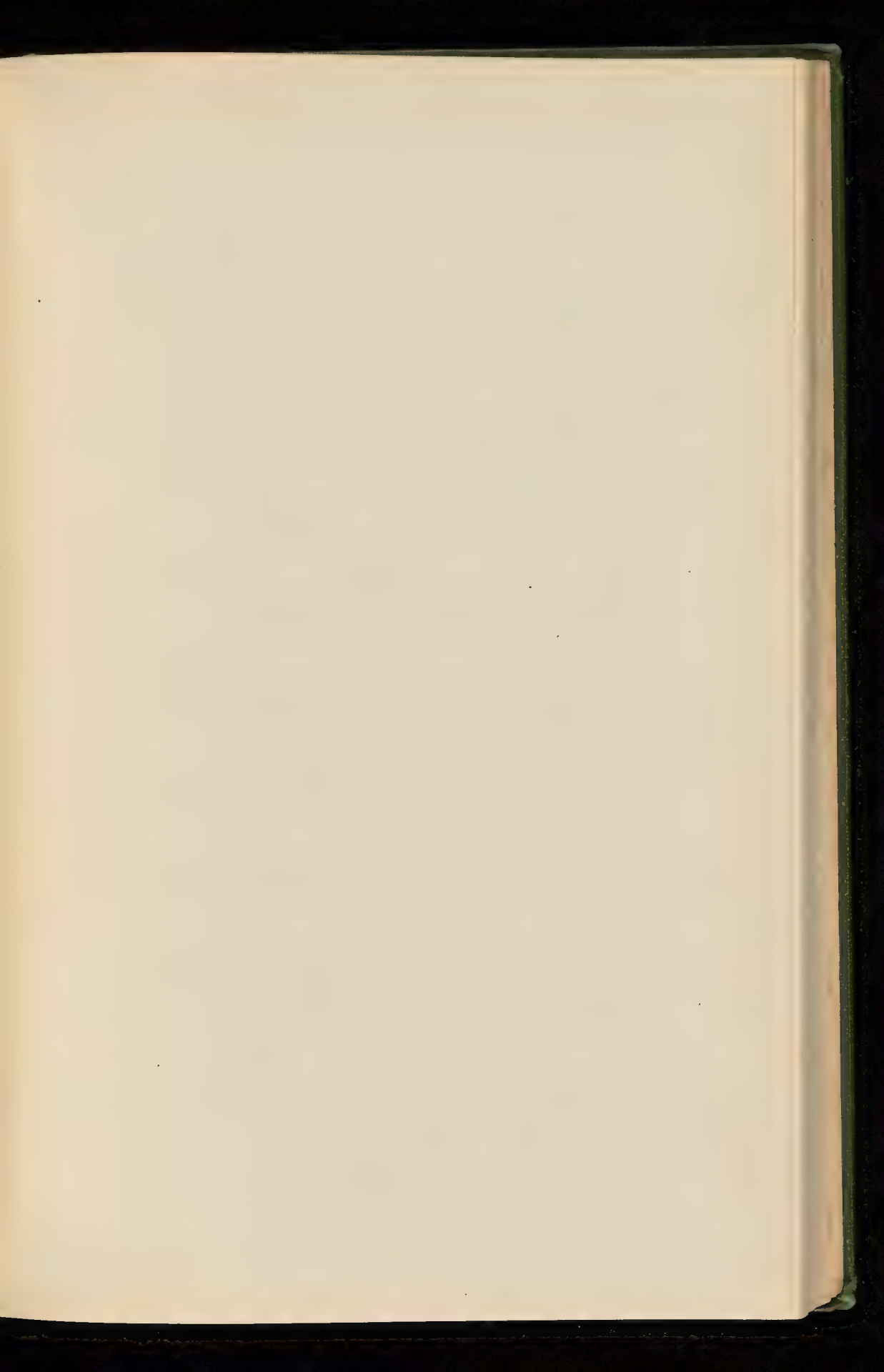
Q has small open curve, and tail curved left and slightly hooked right (cp. tab. 2, col. 9; tab. 3, col. 11).

R shows both a two-stroke form with waved cap suggesting the capital bow and tail and a single-stroke form with clubbed, folded, or tied stem (cp. tab. 2, cols. 3, 7, 21; tab. 3, cols. 8, 13, 22; tab. 4, cols. 9, 10, 15).

S shows the single-stroke compressed double curve, the two-stroke form consisting of hooked stem and arm, or the single-stroke cursive with clubbed, folded, or tied stem and straight or hooked arm (cp. tab. 2, cols. 3, 10, 12, 13, 17, 29; tab. 3, cols. 1, 6, 8, 12, 14; line *t*, col. 28).

T has either straight or hooked members; ligature with preceding letter is through top of stem beneath cap, with following, through cap (cp. tab. 2, cols. 1, 4, 14, 18, 23; tab. 3, cols. 4, 11-13).

U, when standing alone or final in ligature, is a simple curve; in ligature with a following letter, it is written high in the line and the downward link stroke resembles the tail of







the minuscule letter (cp. tab. 2, cols. 4, 7; line *x*, cols. 28, 29; tab. 3, cols. 1, 3, 16, 18, 19).

X occurs only as a numeral, with the regular double-curved crossarms.

Y and Z do not occur.

The more advanced forms of *b*, *o*, *r*, *s* seem to place this ms. as late as the latter part of the second century, while the forms of *a*, *l*, *m*, *t* are against a later date.<sup>41</sup>

39. Oxford, Bodleian Library, ms. Lat. class. g 2 (P).

Fragment of an account. On the verso, parts of two columns in Greek. 4 x 4 in.<sup>42</sup> Published: Grenfell and Hunt, *Greek Pap.*, 2, no. 109.

The writing is a broad cursive with long flourishes. The only ligatures are of *e* with *m*, *r*.

A consists of the two curved legs (cp. tab. 2, cols. 19, etc.; tab. 3, col. 4, etc.).

B has open bow and double-curved stem (cp. tab. 2, cols. 12, 14, etc.; tab. 3, cols. 2, 17, etc.).

C has long flourished cap stroke (cp. tab. 2, cols. 8, 17; tab. 3, col. 3).

D is wanting.

E is uncial, with variously placed transverse (cp. tab. 2, cols. 3, 27, etc.; tab. 3, cols. 17, 20, 25).

F is capital with finial (cp. tab. 2, cols. 1, 19; tab. 2, cols. 1, 9).

G has large curve with flattened cap and short tail (cp. tab. 2, cols. 9, 10; tab. 3, cols. 11, 15).

H is wanting.

I is short with hooks at right, or long with hooks at left (cp. tab. 2, line *h*, cols. 26, 27; tab. 3, cols. 14, 20).

K is wanting.

L has large angle with long base (cp. tab. 2, cols. 11, 14, 26; tab. 3, cols. 9, 10, 26).

M is the angular capital (cp. tab. 2, cols. 1, 3, etc.; tab. 3, cols. 1, 2, etc.).

N is capital (cp. tab. 2, col. 3; tab. 3, col. 1).

O is wanting.

<sup>41</sup> Cp. Stein, in *A. P.* 6, p. 214, whose article was published while this study was in press.

<sup>42</sup> Description by Grenfell and Hunt. Studied in photograph.

P seems to show the form with stem and open bow (cp. tab. 2, col. 17, etc.; tab. 3, col. 8, etc.).

Q is wanting.

R is the two-stroke cursive (cp. tab. 2, col. 4; line *q*, col. 28; tab. 3, col. 13, etc.).

S has arm stroke and hooked stem (cp. tab. 2, col. 16; tab. 3, cols. 25, 26, etc.).

T has hooked stem and flat cap (cp. tab. 2, col. 4; tab. 3, col. 1).

U is the flourished curve or angle (cp. tab. 2, cols. 2, 8; tab. 3, cols. 1, 9).

X, Y, and Z are wanting.

The date may be "second or third century" according to the approximate date supplied by the Greek writing on the verso,<sup>43</sup> and, from the generally simple letter forms, it seems safe to say second century.

40. Berlin? Plate opp. p. 101.

Ostrakon. Published: Wilcken, *Griechische Ostraka*, 2, no. 1266, with facsimile, tab. 3, 6.

Ligatures are not very frequent: *e* with *o*, *s*; *r* with *o*; *t* with *a*; *u* with *i*.

The sign for denarii is  $\text{X}$ .

A has the second leg curving outward (cp. tab. 2, col. 17, etc.; tab. 3, col. 3, etc.).

B, C, and D are wanting.

E shows in ligature the uncial form and the form with cap and arm joined in a single stroke (cp. tab. 2, col. 17; tab. 3, cols. 23, 25).

F and G are wanting.

H occurs only as the Greek letter.

I and K are wanting.

L has downward curving base (cp. tab. 2, col. 11, etc.; tab. 3, col. 6, etc.).

M is the angular capital with long first stem, resembling the Greek letter.

N, with lowered transverse and diminished second stem, resembles the Greek letter.

O is closed or, in ligature, has a more cursive open form (cp. tab. 2, cols. 1, 6; tab. 3, cols. 1, 24).

<sup>43</sup> Grenfell and Hunt, *l.c.*

P, while its bow is nearly closed, shows, unusually, the tendency toward ligature with following letter.

Q does not occur.

R has the regular cursive form (cp. tab. 2, line *q*, cols. 21, 22; tab. 3, col. 28, etc.).

S is linked to preceding letter by hook, making a single-stroke clubbed-stem form (cp. tab. 2, col. 6; tab. 3, col. 12).

T has slightly curved lines (cp. tab. 2, cols. 1, 2; tab. 3, col. 8, etc.).

U shows the simple curve, above the line in ligature (cp. tab. 2, cols. 1, 19; tab. 3, cols. 5, 7).

X, Y, and Z are wanting.

The letters are generally those of the second century, especially *l*, *m*, *n*; while the forms of *s* and *u* make for a date well toward the middle of the century.

41. Geneva, Pap. Lat. VII. Plate opp. p. 101.

Verso, catalogue of works of art in Rome; recto, an older Greek text. Four fragments: (1) 27.5 x 20 cm.; (2) and (3) bits 2-3 cm. wide; (4) 10 x 2-3 cm.<sup>44</sup> Published: Nicole, Jules, *Un catalogue d'oeuvres d'art conservées à Rome à l'époque impériale*, Geneva-Basle, 1906 (with facsimile of frg. 1).

The facsimile is difficult to read on account of the dark color of the papyrus and the prominence of the plant fibres. Ligatures: *a* with *r*; *e* with *a*, *m*, *r*; *f* with *i*; *m* with *e*, *p*; *r* with *e*, *t*; *t* with *a*, *e*, *i*, *r*; *x* with *r*.

Words are generally spaced; groups of words are marked by point. Several accents are marked.

A has curved legs and, often, the transverse or pendant as commonly in tab. 1, *graffiti*, Pompeian waxes, and rarely in the Dacian waxes and in tabs. 2 (cp. cols. 1, 2, 9) and 3 (cp. cols. 1, 2, 25, 26).

B has the common cursive form, with bow and double-curved stem.

C has flattened cap (cp. tabs. 1-3).

D has a quasi uncial form (cp. tabs. 1-3).

E has the compressed uncial form, with certain irregularities such as the omission of cap or base, and the joining of cap and arm especially in the broken-back ligature form (cp. tabs. 1-3, esp. tab. 2, col. 9; line *d*, col. 30; tab. 3, cols. 3, 14, 23).

<sup>44</sup> Description by Nicole. Studied in facsimile.



F is capital with slight curves (cp. tabs. 1-3).

G has large curve with short tail and flat cap stroke (cp. tab. 2, col. 9; tab. 3, col. 11).

H has second stem slightly shortened (cp. tab. 1, col. 2; tab. 2, cols. 8-10; tab. 3, cols. 12, 17).

I is straight or hooked, generally top left and base right (cp. tab. 2, cols. 2, 3, 12, 18, etc.; tab. 3, cols. 1, 7, 13, 14).

K is wanting.

L is curved and runs below the line (cp. tab. 2, col. 11, etc.; tab. 3, col. 15, etc.).

M is the angular capital, approaching or becoming, in ligature, the minuscule (cp. tab. 2, cols. 17, 18, 21, 22, etc.; tab. 3, cols. 2, 7, 14, 26-28).

N is a rough capital with variously placed transverse.

O is round (cp. esp. tab. 2, col. 3; tab. 3, cols. 2-4).

P is a two-stroke letter, generally with hooked stem and slightly open bow (cp. tab. 2, cols. 21, 27, 28; tab. 3, cols. 14, 23, 26).

Q has small, closed or open bow, with tail oblique right and hooked left (cp. tab. 2, col. 13; tab. 3, col. 12, etc.).

R is the two-stroke cursive; occasionally the bow of the capital letter is still distinguishable (cp. tab. 1, col. 3, etc.; tab. 2, cols. 8, 10-12; line *q*, cols. 22, 23; tab. 3, cols. 3, 14, 22, 23, 26).

S shows the compressed double curve and the two-stroke form with stem and cap (cp. tabs. 1-3).

T has both strokes more or less curved and hooked (cp. esp. tab. 3, col. 14); one looped stem resembles *o*.

U is the simple curve or angle, with an occasional second stroke (cp. tabs. 1-3).

X has one crossarm double-curved (cp. tabs. 1-3).

Y shows various forms; stem with left arm, stem with angle above, or (a new form) curve like *u* with tail.

Z is wanting.

The ms. is difficult to date as many of the letters are common to tabs. 1-3; *a* has the earlier forms, which are rare, though still persistent, as late as the third century; while *e*, *l*, *m*, *p*, *q*, seem clearly to indicate the second century.\*

\* "l'on placerait, sans grande chance d'erreur, la date du texte latin entre le milieu du 2<sup>m</sup>e siècle et le premier tiers du 3<sup>m</sup>e. La notation du grec Φ par *f* . . . notation qui, même pour les textes grecs négligement

42. Location?

"Two fragments which do not join. Frg. (a) 33.3 x 33.8. The recto contains an account of payments in Latin cursive." "In the reverse direction several lines have been added in a similar hand, and, in a much larger cursive, the words *Vettius conucumyrtilum myrtilum myrtilum* . . . (Vergil Georg. IV, 1-2) repeated six times. On the verso of fragment (a) parts of 16 lines of an extract from a prose literary work (?) concerning the labours of Hercules, written in capitals with some cursive forms." . . . "Above this is one line referring to something different." "On the verso of fragment (b) are 4 lines in a cursive hand . . . and below this 3 lines of a writing exercise in the same hand as that on the recto—The writing on the recto is across the fibres, that on the verso along them. 2nd or 3rd cent."

Description by Grenfell, Hunt, & Smyly, *Tebtunis Papyri*, II, 686 (p. 334).

43. London, British Museum, Pap. DCCXXXI.

A receipt.  $4\frac{3}{4}$  x 5 in.<sup>45</sup> Published: Grenfell and Hunt, *Greek Papyri*, ser. 2, no. 110, pp. 159-160 and pl. 5 (with facsimile).

The writing is rather small and in places the reproduction at least is faint so that the reading is not easy. Two hands are distinguishable although the forms of the letters are practically identical in both. The first hand (ll. 1-3) writes more broadly and with finer strokes than the second (ll. 4-6). The individual letters are cursive with certain minuscule forms appearing regularly. Ligatures are frequent, especially in the second hand: *a* with *g, n, r, s, t, u*; *b* with *i, u*; *c* with *e*; *e* with *c, f, m, n, r, s, t*; *r* with *c, e, o, u*; *t* with *e, i, u*; *u* with *i, m, s*; *x* with *i*.

Abbreviations: *Aug(ustus)*, *coss*,<sup>46</sup> *dd nn (domini nostri)*, *num(mi)*. The numeral IIII is marked by an oblique overline.

A (tab. 4, cols. 1-4) has the cursive form with two legs, the second hooked in ligature with following letter; one form

écrits est assez rare avant l'époque des Sévère, nous rapprocherait beaucoup plus du seconde terme que du premier"—Nicole, *l.c.*

<sup>45</sup> Description by Grenfell and Hunt. Studied in facsimile.

<sup>46</sup> On the abbreviation *coss*, cp. de Rossi, *I. C.*, cap. 3, pars 2, §2.

(col. 4). with long finishing hook at base of first leg, is a close approach to the minuscule.

B (tab. 4, cols. 1, 2) has bow connected to stem by a tangent; the stem is hooked or, in a new form (col. 2), folded.

C (tab. 4, cols. 1, 3) is compressed and has the separate cap stroke oblique.

D (tab. 4, cols. 1, 2) shows single-stroke and two-stroke forms, both with stem oblique left.

E (tab. 4, cols. 1-5) occurs regularly in ligature, the lower part of curve joined to preceding letter and the short curve of top and arm with following; the form in col. 4, where *e* comes first in ligature, shows a single-stroke letter, the upper part of curve folded back upon itself to springing point of arm (cp. tab. 3, col. 9).

F (tab. 4, col. 1) has cap stroke at left of stem, forming a link to preceding letter, as the arm joins with following.

G (tab. 4, cols. 1-4) shows large curve with short tail drawn at any angle to it and the more cursive double curve with cap serving as link, here to preceding letter (cp. tab. 3, cols. 10, 15).

H is wanting.

I (tab. 4, cols. 1-6) is regularly curved or hooked left at top.

K (tab. 4, col. 1) is probably capital (though not entirely legible in the facsimile).

L (tab. 4, cols. 1, 2) has base curving below the line.

M (tab. 4, cols. 1-5) is regularly a perfect minuscule.

N (tab. 4, cols. 1-4) shows also its first regular minuscule forms.

O (tab. 4, cols. 1-6) is round or oval, sometimes written with two strokes.

P (tab. 4, col. 1) is probably a single-stroke form.

Q (tab. 4, col. 1) has tail to the left.

R (tab. 4, cols. 1-3), regularly in ligature, has stem linked to preceding letter, cap or arm, to following, as in tabs. 2-3.

S (tab. 4, cols. 1-5) has, for its regular form, curved stem and oblique arm stroke. In the second hand occurs the single-stroke, tied form, and also the old double-curved form.

T (tab. 4, cols. 1-5) occurs regularly in ligature. The forms of the second hand are straighter and more nearly square; some forms are written with single stroke; the left side of the cap curves into the stem, which returns upon itself and curves right, forming right side of cap (col. 4).

U (tab. 4, cols. 1-6) shows a variety of single-stroke curves and angles.

X (tab. 4, col. 1) has one crossarm slightly curved.

Y and Z do not occur.

The date (l. 6), as supplied by Grenfell and Hunt, is: *Diocletiano Aug. V et] Maximiano Aug. coss.*, i.e., 293 A.D.

44. Florence, Reale Accademia dei Lincei.<sup>47</sup>

Tax statement in Greek with signature in Latin. Dated 298 A.D. Published: Vitelli, G., *Papiri Fiorentini* (= *Papiri Greco-Egizi pubbl. d. R. Accademia dei Lincei sotto la direzione di D. Comparetti e G. Vitelli*), 1, 32. Cp. Wilcken, in *A. P.* 3, p. 533; 4, p. 429.

45. Cairo, P. 10923.

Declaration regarding land ownership, with subscription in Latin. 220 x 280 mm. Date 299 A.D.<sup>48</sup> Published: Jouguet, P., *Papyrus de Théadelphie* (Paris, 1911), no. 54 (p. 218).

46. Cairo, P. 10924.

Statement regarding lands, with subscription in Latin. Date 299 A.D.<sup>48</sup> Published: Jouguet, *Pap. Thead.*, no. 55 (p. 223).

47. Norfolk, Didlington Hall, Amherst Collection, Papyrus 182.

"7.5 x 11 cm. Parts of four lines, the first and fourth being Latin, the others Greek and mentioning στρατῶται. Dated in the consulship(?) of Diocletian and [Maximian] (A.D. 287-304). Written across the fibres."<sup>49</sup> Published: Grenfell and Hunt, *Amherst Papyri*, 2, 182 (p. 193).

48. Società Italiana per la ricerca dei Papiri greci e latini in Egitto, no. III.

Provenance Oxyrhynchus. "Frammento di rescritto imperiale." 7.8 x 11.4 cm. The document is dated in a consulship of Diocletian and Maximian (287-304 A.D.).<sup>50</sup> Published: *Pubblicazioni della Società Italiana per la ricerca dei Papiri greci e latini in Egitto. Papiri greci e latini* vol. I, no. III.

<sup>47</sup> Cp. Wilcken.

<sup>48</sup> Description by Jouguet.

<sup>49</sup> Description by Grenfell and Hunt.

<sup>50</sup> Description in *Papiri greci e latini*, I, no. III.



49. Strassburg, Universitätsbibliothek, P. gr. 1592.

Provenance Fayûm. Declaration for census in Greek with subscription in Latin. 38 x 25 cm. Writing along the fibres.<sup>51</sup> Published: Preisigke, F., *Griechische Papyrus der Kaiserlichen Universitäts- und Landesbibliothek zu Strassburg im Elsass*, Bd. 1, Heft 2 (Strassburg, 1907), no. 42, p. 151 and tab. 10.

The writing is in an easy rapid cursive hand with frequent, regular ligatures: *a* with *n*; *b* with *s*; *e* with *n*, *p*, *r*; *h* with *e*; *l* with *p*; *r* with *c*.

Abbreviations: *cens(itor)*, *Hept(anomia)*, *subscr(ipsi)*, marked by a point in the line or an oblique stroke above.

A (tab. 4, cols. 4, 6, etc.) is very nearly minuscule.

B (tab. 4, col. 19) has bow at left but looped stem joining in ligature with following letter.

C (tab. 4, cols. 17, 24) is broken at top or middle of back.

D (tab. 4, col. 15) stands, not in ligature, in the two-stroke cursive form.

E (tab. 4, cols. 1, 2) has broken back, with cap and arm combined in a single curved stroke.

F and G are wanting.

H (tab. 4, col. 13), written with single stroke, has bowed stem and rounded angles; unusual is the hook rising from the lower right to link with following letter.

I (tab. 4, col. 8) is short, with hook left at top.

K is wanting.

L (tab. 4, cols. 3, 4) has bowed stem, and base flat or curving slightly upward.

M is wanting.

N (tab. 4, cols. 1, 2) is minuscule.

P (tab. 4, cols. 19, 20) links at top of stem with preceding letter; the stem goes below the line and has finishing hook; the bow is open above top of stem.

Q is wanting.

R (tab. 4, cols. 24, 25) has double-curved stem with cap at right.

S (tab. 4, cols. 4, 8, etc.) has single-stroke clubbed-stem form, with straight arm.

T (tab. 4, col. 3), not in ligature, has curved stem, with cap curving downward at both ends.

<sup>51</sup> Description by Preisigke. Studied in facsimile.

U (tab. 4, cols. 1, 2, 7) shows the simple curved letter and the two-stroke minuscule.

X (tab. 4, col. 10) has one crossarm curved.

Y and Z are wanting.

The date is (line 1): Ὑπατείας Τατίου Ἀνδρονίκου καὶ Πομπηίου Πρόβου τῶν λαμπροτάτων ἐπάρχων πρὸ γκαλανδῶν Μαρτίων ἥτις ἐστὶν Φαμενώθ γ', i.e. Feb. 27, 310 A.D.

50. Florence, Reale Accademia dei Lincei.

Petition to the prefect in Greek, with dating in Latin. Published: Vitelli, *P. Fior.*, 1, 36. Cp. Wilcken, in *A. P.* 3, pp. 533-534. Dated in 312 A.D.

51. Società Italiana per la ricerca dei Papiri greci e latini, no. 112.

Provenance Oxyrhynchus. "Frammento di rescritto imperiale." 14.5 x 12 cm.<sup>52</sup> Published: *Publicazioni della Società Italiana per la ricerca dei Papiri greci e latini in Egitto. Papiri greci e latini*, 1, no. 112.

The document is dated in the consulship of Sabinus and Rufinus, 316 A.D.

52. Vienna, Hofbibliothek, Sammlung Rainer, Ausstellungs-Nr. 518.

Three lines in Greek with dating in Latin. 13 x 23.6 cm. Published: Wessely, *Schrifttaf.*, no. 16 (with facs.). Cp. *Führer*, no. 518, p. 122.

The hand is a rough but rapid cursive. Ligatures: *a* with *l*; *n*; *g* with *a*; *l* with *i*.

Abbreviations: *vv cc* (*virī clarissimi*) and *coss*. The *v*'s are marked by a short curve above.

A (tab. 4, cols. 12-14), where clear, approaches the minuscule, in ligature with following letter sometimes placed above the line.

B (tab. 4, col. 8) is a cursive form with hooked stem, and open bow at right.

C (tab. 4, cols. 16, 17, 25) has curve broken near base.

D is wanting.

E is legible only in the lower part, which resembles that of tab. 4, col. 1, etc.

<sup>52</sup> Description in *Papiri greci e latini* vol. 1, no. 112.

F is wanting.

G (tab. 4, col. 10) combines tail and cap in a wide double curve; the cap links to following letter.

H is wanting.

I (tab. 4, col. 19) occurs only in ligature, prolonged to great length below the line.

K is wanting.

L (tab. 4, cols. 9, 10) has acute angle between stem and base.

M is wanting.

N (tab. 4, col. 8), with the link joining it to a preceding *a*, shows a quasi minuscule form.

O (tab. 4, cols. 2, 5, 14) is an open, single or two-stroke curve.

P, Q, and R are wanting.

S (tab. 4, cols. 15-18—the form in col. 16 is probably a correction) has narrow double curve broken either at cap or base.

T (tab. 4, col. 16) has hooked stem and half cap at right.

U (tab. 4, cols. 2, 14) is the simple curved letter.

Y and Z are wanting.

The date, *Gallicano et Basso coss.*, corresponds to the year 317 A.D.

### 53. Cairo?

"Papyrus bilingue du Musée de Caire." "Une affaire jugée par le *Praeses Aegypti Herculiae*."<sup>52a</sup> Published: Collinet and Jouguet, in *A.P.* 3 (1906), pp. 339-348. Cp. Viereck, in *A.P.* 4 (1907), pp. 156-162.

The date is: "*D. n. Licinio Aug. VI et Licinio nob. Caes. II coss.*," i.e. 322 or 323 A.D.

### 54. Geneva, P. II.

A letter from the correspondence of of Flavius Abinnaeus. 25 x 38 cm.<sup>52b</sup> Published: Nicole, J., *Les Papyrus de Genève*, 1, fasc. 2 (Geneva, 1900), no. 45; *Id.*, in *Rev. de Philol.* 20 (1896), pp. 43-54. Mitteis and Wilcken, I, ii, no. 464.

The date (line 9) is: *Fl(avio) Leontio praef(ecto) praet(orio) et Fl(avio) Sallustio mag(istro) ped(itum) vv. cc. coss.*, i.e. 344 A.D.

<sup>52a</sup> Description by Collinet and Jouguet. Present location unascertained.

<sup>52b</sup> Description by Nicole. Photograph unobtainable.

55. Leipsic, Universitätsbibliothek, Inv. Nr. 530.

"Herkunft unbekannt." Bilingual, Greek and Latin. 23 x 70 cm. "Unterer Rand abgebrochen, ebenso die linke Seite." . . . "Der Charakter dieser Urkunde ist nicht unzweifelhaft. Man kann daran denken, sie anzusehen für das Protokoll über eine amtliche Verhandlung, in welcher ein kaiserliches Reskript u. zw. von Diokletian und seinen Mitregenten zur Verlesung gelangt."<sup>53</sup> Published: Mitteis, L., *Griechische Urkunden der Papyrussammlung zu Leipzig*, Leipsic, 1906, Bd. I, no. 44 (p. 149). Cp. Mitteis and Wilcken, II, ii, no. 381.

The writing is in a rapid, though clear, cursive hand—unfortunately somewhat obscured in my small photograph—with many ligatures: *a* with *c, d, e, l, m, n, r, s, t, u, x*; *d* with *e*; *e* with *c, d, g, l, m, n, o, r, s, t, u, x*; *f* with *a, i*; *g* with *a, g*; *l* with *a, e, i*; *o* with *c, d, e, n, r, u*; *r* with *a, e, i, n, o, r, t, u*; *t* with *a, c, e, i, m, o, r, u*; *y* with *m, n, s*.

Abbreviations. *Augg* (*Augusti*), *Caess* (*Caesares*), *impp* (*imperatores*), *nobb* (*nobilissimi*). Abbreviation marks: short oblique or curve above the line. Ends of sentences seem to be marked with a similar sign. Empty spaces are filled with scrawls repeated several times.

A (tab. 4, cols. 5-11) is a single-stroke letter, developed from forms similar to col. 4, the stroke beginning with the enlarged hook at base of first leg and linking the two legs together by fold, tie, or loop; further lengthening of hook in relation to legs results in the cursive minuscule (col. 11).

B (tab. 4, cols. 3-7) shows new forms, with stem bowed or looped and bow at right joined in a single stroke.

C (tab. 4, cols. 4-7) has its curve broken, no longer between back and cap, but lower, between base and the long hooked stroke representing back and cap; ligature with preceding letter occurs at left of base stroke.

D (tab. 4, cols. 3-7) has bow at left of stem, now separate and now in a single stroke; the stem is bowed, folded, looped, or double-looped; in one two-stroke form the loop links to following letter (col. 6).

E (tab. 4, cols. 6-13), like *c*, has its curve broken lower in the back, near base, which then links to preceding letter, as the arm links to letter following; in one form (col. 11), the narrow curved stroke representing back and cap folds back to springing point of arm.

<sup>53</sup> Description by Mitteis. Studied in photograph.



F (tab. 4, cols. 2-3) has curved and hooked strokes; cap and arm form an angle at the meeting point with stem.

G (tab. 4, cols. 5-9) is the double-curved cursive, the curve of tail about equally balancing the upper curve of the older letter, with flat or waved cap stroke; ligature occurs with preceding letter at top of double-curved tail, with following, through cap.

H (tab. 4, col. 1) is a minuscule with bowed stem, linking with preceding letter.

I (tab. 4, cols. 7-17) has various stems: short, long; straight, curved; hooked, bowed, tied, looped, double-looped left at top; and at bottom, straight, curved, or hooked, generally right.

K (tab. 4, col. 2) has large curve in place of angle; the oblique stroke following the letter is probably not part of it.

L (tab. 4, cols. 3-8) has upward curving base, which hooks or ties in ligature, and stem regularly bowed or looped at left.

M (tab. 4, cols. 1, 3, 6) is the cursive minuscule, linking with preceding letter in a wide angle.

N (tab. 4, cols. 1-3, 5-7) is a minuscule of varying width.

O (tab. 4, cols. 1, 2, 7-13) is oval, varying in size; ligatures are by hook or tangent, both before and after another letter.

P (tab. 4, cols. 2-5) has bow and curved or double-curved stem usually in a single stroke, which begins variously with the upper or lower side of bow and runs below the line.

Q (tab. 4, cols. 2-4) generally has closed circle, with tail curved or hooked left.

R (tab. 4, cols. 1, 3-10) is generally the two-stroke cursive, with separate stem and arm or cap; but also not infrequent is the single-stroke letter in which arm stroke springs from base of stem—the stem is clubbed, folded (col. 9), tied, or looped (col. 10).

S (tab. 4, cols. 6-13) shows both the simple hooked stem with separate arm stroke, and the single-stroke folded or tied stem.

T (tab. 4, cols. 6-15) has hooked stem, with cap variously straight or curved; ligature with following letter is through cap, with preceding, through top, or, in a new form, base of stem (cols. 12-15).

U (tab. 4, cols. 7-13) has, beside the simple curve (last in ligature), generally the two-stroke letter more or less resembling the minuscule.

X (tab. 4, cols. 4, 5) has one crossarm curved.

Y (tab. 4, cols. 1-3) has the angle narrowed at vertex into a clubbed stem.

Z is wanting.

In dating, the terminus *post quem* is, of course, the joint reign of Diocletian and Maximian (285-305 A.D.). In col. 1, l. 8, *Leonti* [ . . ]—*bas* ( or —*bus*?) may be a consular date. The only similar name in the Fasti is of the year 344—*Leontia et Bonoso*—which is a most likely date palaeographically (cp. no. 56).

56. London, British Museum, Pap. CCCCXLVII.

A letter from the correspondence of Flavius Abinnaeus. On the verso, fragment of an account. 29.5 x 49.5 cm. Writing along the fibres. The greater part of lines 13-14 has been cancelled by long horizontal strokes. The latter part of line 12 has for the most part disappeared, probably by erasure, and in its place are two short lines, written by a second hand, which are continued down the right margin in six more short lines.<sup>54</sup> Noticed in Kenyon, F. G., *Greek Papyri in the British Museum*, 2, p. xxxix. Cp. Haeberlin, in *B. ph. W.* 19 (1899), col. 294; *Catalogue of additions 1888-1893*, p. 449.

The writing is in a large, easy cursive hand, with frequent flourishes especially at the ends of lines. The second hand is somewhat cramped but nevertheless plain. Ligatures are frequent: *a* with *b, c, d, e, g, l, m, n, p, q, r, s, t, x*; *e* with *a, c, d, e, f, g, h, i, m, n, o, p, r, s, t, u, x*; *f* with *e, g*; *g* with *a, e, i, n, r*; *l* with *a, e, i*; *m* with *e*; *o* with *m, n, r, s*; *r* with *a, e, g, i, o, t, u*; *t* with *a, e, h, i, o, q, r, t, u*; *x* with *i*.

There seem to be no abbreviations; even names and titles are written in full.

A (tab. 4, cols. 7, 8, 10, 15-23) shows various forms of the single-stroke, quasi minuscule letter, first leg with hook or even closed bow, the second leg short and oftenest tied or looped to the first.

B (tab. 4, cols. 9-13) has stem hooked, clubbed, bowed, or double-looped; the bow, regularly at right of stem, is either open or closed; sometimes an extra stroke is added to make closed bow (cols. 11, 12).

C (tab. 4, cols. 1, 6, 8-15) breaks its curve at various points in the back, especially when in ligature, according to the

<sup>54</sup> Description by Kenyon. Studied in photograph.

height of the final member of preceding letter; the upper part of curve, or the cap, is a long upward oblique with sharp hook.

D (tab. 4, cols. 5, 8-17), rarely in two-stroke form, regularly in a single stroke, is the cursive minuscule with stem variously curved, hooked, oftenest folded, looped, or double-looped.

E (tab. 4, cols. 14-26) appears in various elaborate forms: the base and part of back in one stroke; the upper part of back and the cap represented in a long oblique line, straight, hooked, bowed, looped, or double-looped; the arm short, or long and flourished, sometimes in a simple curve with cap, sometimes springing from the bottom of looped cap stroke.

F (tab. 4, cols. 2, 4-8) has straight or hooked stem; the cap, like that of *e*, is a long oblique stroke, straight, hooked, bowed, or looped; the arm is made with one stroke, joining with cap in a curve.

G (tab. 4, cols. 12-17) has wide double-curved tail, often returning on itself in a finishing hook or (col. 15) bow; ligature with preceding letter is through hook at top of tail, making it somewhat resemble the figure 3, with following letter, through cap.

H (tab. 4, cols. 2-6) is the cursive minuscule, with stem hooked, bowed, or double-looped, especially when in ligature.

I (tab. 4, cols. 2, 4-6, 8, 10, 14, 15, 20-26) is long or short, curved left, hooked, bowed, looped, or double-looped.

K is wanting.

L (tab. 4, cols. 5, 11-16) has upward curving base, sometimes separated from stem when in ligature with preceding letter (col. 15; cp. *c* and *e*); the stem is variously curved, hooked left, clubbed, bowed, looped, or double-looped; ligature with preceding letter is through hook or loop of stem, with following, through hook or tie at extremity of base.

M (tab. 4, cols. 7-15) is regularly minuscule, though sometimes written with two strokes (col. 9); the first stem sometimes ties or loops (col. 14); there are occasional slurrings and long flourishes (cols. 10, 12, 16).

N (tab. 4, cols. 1, 7, 9-12) varies between capital and minuscule.

O (tab. 4, cols. 2, 11, 12, 15-21), open or closed, varies in size, the large forms made with two strokes; ligature occurs by hook, tangent, or intersecting tangents.



P (tab. 4, cols. 6-11) has both the single-stroke form with small bow and curved stem and, always in the first hand, the two-stroke form with bow line open, closed, or intersecting the stem; ligature is through top of stem.

Q (tab. 4, cols. 5-10) has bow open at top or closed, and tail oblique, curved, or hooked left; ligature is by hook at top of bow.

R (tab. 4, cols. 11-18) has simple stem, straight, curved, or hooked, and, in ligature, folded, clubbed, tied, or looped stem in a single stroke with the arm; the arm is variously round or pointed at shoulder, in ligature according to the direction of the initial stroke of the following letter.

S (tab. 4, cols. 2, 4, 8, 9, 10, 14, 19-23) shows various two-stroke forms, cap or arm stroke generally ending in hook or flourish, and, perhaps more frequently, especially in ligature, the single-stroke letter with stem clubbed, tied, or looped.

T (tab. 4, cols. 3, etc., 17-23) has the hook of stem large, sometimes (col. 21) as large as the stem itself; the cap is a sweeping curve or double curve, sometimes broken in ligature (col. 22); ligature with preceding letter is through top of stem, with following, through cap.

U (tab. 4, cols. 1, 4, 12, 14-23) shows considerable variety: the simple curve, sometimes slurred (col. 21), sometimes with finishing hooks (col. 16), sometimes written above the line (cols. 3, 20); the single or two-stroke minuscule, sometimes with elaborate finials and clubbed or looped second stem.

The letter seems to be addressed to (1. 2) the emperors Constans and Constantius (333-350 A.D.) or to some high authority under them. Most of the dated correspondence of Abinnaeus is of the year 346.

57. Cairo (?).

28 x 144 cm. (a) "8 κολλήματα," each c. 18 cm. wide. Writing on the recto in 3 columns. The first two columns are imperfect. (b) Two other fragments, which belong to the lower left-hand part of the document, measuring respectively, 14 x 1-3.5 cm., containing fragmentary 10 lines, and 13-14.5 x 8-9 cm. The second is separated from the first by a lacuna of eight to ten letters. (c) "Restent enfin deux petits morceaux tombés pendant qu'on déroulait le papyrus et que l'on peut rétablir à leur véritable place" (i.e. l. 10). "Nous avons ainsi à peu près entièrement le compte rendu,



d'un procès plaidé devant un certain *Flavius Gennadius, juridicus* d'Alexandrie." "Le greffier qui a rédigé ce procès-verbal emploie le latin chaque fois qu'il ne rapporte pas les paroles du juge, d'une des parties, ou de leurs avocats." "Ceux-ci s'expriment en Grec . . ." Latin occurs in col. 1, lines 1-2, 4, 7, 9, 15, 17; col. 2, lines, 1, 4, 6, 11, 13, 14, 16; col. 3, lines 2, 5, 7, 9. " . . . le style de l'écriture [i.e. of the Greek] en général offre assez nettement les caractères d'un style de transition entre celui de la première moitié du IV<sup>e</sup> siècle et celui de la fin du V<sup>e</sup> siècle après J.-Ch. Les formes de ces deux époques s'y trouvent assez mélangées." "Mais cette date nous a été conservée. Elle était indiquée dès la première ligne par les noms des consuls qui, malgré tous nos efforts, nous n'avons malheureusement pas pu déchiffrer. Toutefois, dès le début du procès l'avocat de l'une des parties cite un mandat (*ἐντολή*) donné par sa cliente à une autre personne et le greffier a conservé justement la formule de date de cette pièce. Elle est de l'année des consuls *Sergius et Nigrinus*, c.à.d. 350 après J.-Ch., or il est vraisemblable que le procès n'a pas eu lieu longtemps après la délivrance de ce mandat."<sup>55</sup>

58. Leipsic, Universitätsbibliothek, Inv. Nr. 487.

Provenance Hermupolis. Declaration of claim to property under a will. Bilingual, Greek and (col. 2, line 9) Latin. 26 x 45 cm.<sup>56</sup> Published: Mitteis, *Gr. Urk.*, 1, no. 33, p. 88.

Abbreviations: *com(es)*, *dei(xit)*, *v(ir)* *p(erfectissimus)*, *praes(es)*, *Thebai(dis)*.

The date is (col. 2, line 1), as supplied by Mitteis: Ὑπατείας τῶν δεσ[ποτῶν ἡμῶν φλ(αυίων) Ὀυαλεντινιάνου] τὸ β καὶ Οὐ[άλεντος τὸ β] κ[αί] Γρατιανοῦ τῶν αἰώνιων Ἀγγο[ύστ]ων, i.e. probably 368 A.D., although the naming of three consuls is incorrect.<sup>57</sup>

59. Leipsic, Universitätsbibliothek, Inv. Nr. 400.

Provenance Hermupolis. Appeal on plea of *res judicata* in an embezzlement case.<sup>58</sup> 26 x 35 cm. Bilingual, Greek and (lines 24-25) Latin. Published: Mitteis, *Gr. Urk.*, 1, no. 35, p. 110. Cp. Wilcken, in *A.P.* 3(1906), pp. 563-564.

The mutilated character of the lower part of the papyrus

<sup>55</sup> All according to Collinet and Jouguet, in *A. P.* 1 (1901), pp. 298-302. Cp. Mitteis and Wilcken, II, ii, no. 96; Mitteis, in *Sitz-Ber.* 1910, p. 116.

<sup>56</sup> Description by Mitteis.

<sup>57</sup> Cp. Mitteis, *op. cit.*, p. 103.

<sup>58</sup> Description by Mitteis. Studied in photograph.

makes reading difficult, although the writing is in an easy, rapid, cursive hand with frequent ligatures: *a* with *l*; *e* with *r*; *f* with *e*; *l* with *a*, *i*; *r* with *e*, *f*, *r*; *t* with *i*.

A (tab. 4, col. 24) is the open cursive minuscule, high in the line in ligature between other letters.

B and C are wanting.

D (tab. 4, cols. 18, 19) seems to show both an uncial form and a two-stroke form with curved and bowed stem.

E (tab. 4, cols. 27-29), standing alone, has the uncial form with prolonged arm stroke; in ligature, the back breaks above or below arm; ligature with preceding letter is through base.

F (tab. 4, col. 10) shows a new single-stroke form with folded stem, and cap bowed to springing point of arm.

G and H are wanting.

I (tab. 4, cols. 1, 4, 17), standing alone, is short and straight; in ligature with preceding letter by hook or tie, it curves left below the line.

K is wanting.

L (tab. 4, cols. 12, 18) has folded stem, and upward curving base which ties in ligature.

M (tab. 4, col. 19, etc.) is minuscule.

N (tab. 4, cols. 13, 14) is capital.

O (tab. 4, col. 1) is small and circular.

P (tab. 4, cols. 11, 12, 21) has bow and straight or hooked stem; in col. 21, the bow line crosses the stem; a new form (col. 13), similar to later ligature forms (cp. tab. 5, col. 20, etc.), has bow open at left and stem tied beneath.

Q is wanting.

R (tab. 4, col. 18) has folded stem and high angular shoulder.

S (tab. 4, col. 24) has hooked stem and disconnected oblique arm.

T (tab. 4, col. 11, cp. col. 21) has full curves in stem and cap.

U, X, Y, and Z are wanting.

The appeal is addressed: *τ[οῖς γ]ῆς καὶ θαλά[τ]της κ[αὶ] παν[τὸς] ἀνθρώ[π]ων ἔθν[ο]υς καὶ γένο[ν]ς δεσπόταις φλλ Οὐάλεντι καὶ Γρατιανῶ καὶ Οὐάλε[ντι]ν[ε] ἀνφ αἰων[ί]οις καὶ τροπα[ι]ούχοις Αὐγούστοις . . .*, giving as an approximate date 375-378 A.D.

60. Leipsic, Universitätsbibliothek, Inv. Nr. 65.

Provenance Hermupolis. Mutilated account of a procedure before the *Praeses Thebaidis*. Bilingual, Greek and Latin, 26 x

75 cm.<sup>59</sup> Published: Mitteis, *Gr. Urk.*, I, no. 38, p. 119; *Id.*, in *Sav. Z.* 29, 471 A. 2; *Id.*, in *Sitz-Ber.* 1910, pp. 116-121; Wilcken, in *A.P.* 3(1906), p. 565; 4, p. 469; Wenger, in *Gött. g. A.* 1907, p. 306; Mitteis and Wilcken, II, ii, no. 97.

The writing is in two easy cursive hands, the first (col. 1, line 1) larger and with longer and more flourished strokes. There are many ligatures: *a* with *d, e, m, n, p, r, s, t*; *c* with *a, d, h(?)*, *i*; *d* with *a(?)*, *e(?)*, *i*; *e* with *b, d, i, m, n, o, p, q, r, s, t*; *k* with *a*; *l* with *a*; *o* with *c, d, e, n*; *q* with *u*; *r* with *a, e, i, o*; *t* with *c, d, e, h, i, o, r*; *u* with *c, t(?)*.

Abbreviations: [*a*]*d(vocatus)*, *conss*, *d(ixit)*, *Demetriu(s)*, *Herode(s)*, *(H)esychiu(s)*, *Ioseph(us)*, *kal(endas)*, *pre(ses)*, *Tebaei(dis)*, *v(ir) c(larissimus)*.

An oblique stroke above or through the last letter sometimes marks the abbreviation.

A (tab. 4, cols. 8, 25-30) is regularly the minuscule letter, with open bow sometimes looped with tail (col. 30); in ligature, the letter often stands above the line; the older cursive form with two legs appears once (col. 25), the first leg looped in ligature with preceding letter.

B (tab. 4, cols. 14-17, 20) has bow at right, and generally looped or folded stem linking to preceding letter; a separate stroke sometimes closes the bow.

C (tab. 4, cols. 17-20) breaks its curve at various points in the back; forms with high cap (cols. 20, 26) resemble *t* (perhaps to be read *t*); those with curved arc in place of cap resemble *e* (col. 27).

D (tab. 4, cols. 2, 8, 20-25) has bow at left, and stem variously straight, curved, folded, or double-looped; forms like those in cols. 20, 27, occurring especially in the name *(H)-adrate*, should perhaps be read *t*.

E (tab. 4, col. 30; line *f*, cols. 18-23) has its curve broken in two, at various points in the back, in ligature, according to the height of preceding letter. The upper part of the letter is variously made: it is round like the uncial, with separate arm stroke; it is an open curve parallel to the lower part of the letter and represents cap and arm; or it is looped or folded back to join with arm.

F (tab. 4, col. 9) is not clear; cap and arm seem to be in a single-stroke curve.

<sup>59</sup> Description by Mitteis and Wilcken. Studied in photograph and facsimile.



G is wanting.

H (tab. 4, cols. 7-11, 14), standing alone, has long stem, straight or hooked; in ligature, it is high or low, with stem hooked or looped.

I (tab. 4, cols. 1, 27-29) is short or long; straight, hooked left, folded, or looped.

K (tab. 4, col. 3) seems to have angle curved and linked with following letter.

L (tab. 4, cols. 19, 20) shows base curving either upward or (in the first hand) downward, and tied in ligature with following letter; the stem is hooked or, in ligature with preceding letter, double-looped.

M (tab. 4, cols. 1, 5, 17, 19) is minuscule, sometimes with first stem written with separate stroke.

N (tab. 4, cols. 11, 14, 15) is capital.

O (tab. 4, cols. 7, 8, 18, 22-25, 29) varies in size and links by hook, tangent, or intersecting tangents.

P (tab. 4, cols. 13, 14, 23) is long or short, with bow closed, or open at left and tied to stem; ligature is by hook at top of stem.

Q (tab. 4, col. 11) is a large cursive form with tail tied to bow and curved left; the bow is closed at top by cap stroke which links to following letter (cp. *b*, cols. 17, 20).

R (tab. 4, cols. 10, 19-21, 26), in the first hand, has double-curved stem and cap; one form has stem joined by bow to left end of cap; the second hand has the arm stroke separate, or in a single stroke with the doubled stem.

S (tab. 4, cols. 25-28) has straight stem and upward curving arm, or doubled stem and arm in a single stroke.

T (tab. 4, cols. 13, 14, 24-30; line *x*, cols. 29, 30) has the various newer forms, with further advance; stem and hook at base form a circle which joins the cap in hook or tie (line *x*, cols. 29, 30). Ligatures are frequent: with preceding letter, through top or base of stem, which becomes often a mere hook on the final member of the other letter; with following letter, through cap, which curves upward or downward according to the height of the other letter.

U (tab. 4, cols. 1, 7, 18, 24-28), large in the first hand, is, variously, a simple curve, a single or two-stroke minuscule, or a minuscule with long final hook, which, occurring in ligature with following letter, is easily mistaken for *a* (e.g.



col. 1, line 2 and col. 2, line 1, is the name *Cenuthius* or *Cenathius*? (cp. tab. a, col. 29)).

X is wanting.

Y is wanting, the sound being represented by u.

Z is wanting.

The date is (col. 1, l. 1): [*D. n. Fl(avio) Valentiniano I] u[nio]re quartum [et Fl(avio) N]eoterio v. c. cons. a. [d.] XII kal. Octobr., i.e. Sept. 20, 390 A.D.*

61. Leyden, Rijksmuseum van Oudheden, I, 425 in "Catalogus Musei," A, ms. 5 in "Catalogus Manuscriptus Monumentorum Anastasianorum."<sup>t</sup>

Provenance, Philae. An imperial rescript (or petition?)<sup>59a</sup> 31 x 76 cm. The writing is Greek Cursive with a mixture of majuscule characters; there are several lacunae.<sup>60</sup> To the left of the Greek are (a) two short lines in Latin and some larger letters, not yet read. Above the Greek are (b) two Latin words *Exemp[lu]m prec[u]m* in a different hand from that of the other Latin. Published: Leemans, C., *Papyri Graeci Musei Antiquarii Lugduni-Batavi. Regis Augustissimi Iussu — Tomus II*, Leyden (in *Museo Antiquario* and published by E. J. Brill) 1885, Pap. Z, pp. 263-276, facs. tab. 4 (largely from the ms. of E. J. Kiehline); Wessely, Karl, *Ein bilingues Majestäts-gesuch aus dem Jahre 391/92 n. Chr.* Cp. Wilcken, in *B.ph.W.* 8 (1888), cols. 1205-1208 (Review of Wessely); *Id.*, *Dresdener Vortrag*; *Id.*, in *A.P.* 1, p. 374; Faass, in *Arch. f. Urk-forsch.* 1, p. 190.

The writing of the two Latin lines is an easy cursive, with long final strokes. Ligatures are almost continuous (l. 1, *Bene valere* is interrupted only after the *n*; l. 2, *te cupimus* is interrupted after the *c*, *p*, *i*, *m*): *a* with *l*; *b* with *e*; *e* with *c*, *m*, *n*, *r*, *u*, *x*; *l* with *e*, *u*; *r* with *e*; *t* with *e*; *u* with *m*, *p*, *s*.

A (tab. 4, line b, col. 28) is the cursive minuscule with bow partially closed by hook and looped with tail.

B (tab. 4, col. 18), in ligature with a following letter, has bow at left of stem.

C (tab. 4, cols. 21, 22) links with preceding letter through base; in hand (a) the upper part of the letter is a graceful

<sup>t</sup> Leemans, p. 263; *Id.*, *Praef.*, p. VIII, where a different number is given—"Pap. Z. Libellus supplex (Catal. I, 420)".

<sup>59a</sup> Cp. Wilcken, in *B. ph. W.* 8, col. 1206.

<sup>60</sup> Description by Leemans. Studied in facsimile.

double curve ending in a small bow; in hand (b) the two strokes intersect.

D is wanting.

E (tab. 4, line f, cols. 25-28) has separate curved base stroke; generally long, oblique, looped back and cap; and short arm, sometimes intersecting the back.

F, G, and H do not occur.

I (tab. 4, col. 30) has short horizontal finials, top left and base right.

K is wanting.

L (tab. 4, col. 21) is a large double-looped form, standing in ligature between other letters.

M (tab. 4, cols. 5, 18) is minuscule, once with final hook.

N (tab. 4, col. 17) is minuscule, linking with preceding letter at top of first stem.

O is wanting.

P (tab. 4, cols. 15, 16), in hand (b), is capital, or, in one form, perhaps resembles col. 6, etc.; in hand (a), it has hooked stem running far below the line, and bow hooked inward like a spiral.

Q does not occur.

R (tab. 4, col. 22) has doubled stem with rounding shoulder and arm.

S (tab. 4, col. 29) has stem looped low and running high above the line, finishing in a spiral.

T (tab. 4, line x, col. 28) has full curves in stem and cap.

U (tab. 4, cols. 4, 29) is the simple curve, vertically or horizontally placed above the line in ligature with following letter.

X (tab. 4, col. 9) has slightly curved arms.

Y and Z are wanting.

The papyrus is dated by Leemans 391-392 A.D., for the petition is addressed in line 1 of the Greek: [δ]εσπόταις . . . Θεοδοσίῳ καὶ βαλεντιν[ί]νῳ . . . That the large, as yet unread characters to the left contain part of a dating is a plausible suggestion offered by Wilcken,<sup>u</sup> who makes another interesting suggestion in the possibility that the *bene te valere cupimus* is an autograph of Theodosius.

<sup>u</sup> In *B. ph. W.* 8, col. 1206—"die grossen Buchstaben am linken abgebrochenen Rande die Wessely "*erneut*" liest, sind der schluss des Reskriptes—ich glaube die Datierung."

62. Vienna, Hofbibliothek, Sammlung Rainer. .

A dating. Published: Wessely, *Schrifttaf.*, no. 19 (with facsimile).

The writing is a rough cursive. Ligatures are almost continuous: *a* with *r*(?), *u*; *c* with *o*; *e* with *r*, *t*; *g* with *c*, *g*; *o* with *n*; *r* with *i*, *p*.

Abbreviations: *Augg* (*Augusti*), *conss* (*consulibus*), *nn* (*nostris*), *perp* (*perpetuus*). Abbreviation marks are the overline, and the oblique across the lower part of the final letter; in rapid writing, as here, this stroke joins with following letter.

A (tab. 4, line *b*, cols. 29, 30; cp. col. 17, etc.) has large quasi minuscule forms.

B does not occur.

C (tab. 4, col. 23) has the intersecting back and cap linked respectively to preceding and following letter.

D does not occur in the fragment.

E (tab. 4, col. 1; line *f*, col. 29) shows the older round-backed letter, here with long finishing hook, varying with the broken-back ligature form.

F is wanting.

G (tab. 4, col. 19) has narrow double-curved tail with separate-stroke flat cap.

H (tab. 4, col. 12) is a new minuscule form with clubbed stem and with tie between it and the curve representing transverse and second stem.

I (tab. 4, col. 4, etc.) is regular, curving back below the line when final in ligature.

K, L, and M are wanting.

N (tab. 4, col. 16) is a rough minuscule form made with two strokes.

O (tab. 4, cols. 1, 8, etc., 26-28) has regular forms as they occur standing alone, in ligature with a following letter, or in ligature between two other letters.

P (tab. 4, cols. 17, 18) has stem regularly going below the line; ligature with preceding letter is by means of hook at top of stem.

Q does not occur.

R (tab. 4, cols. 19, 23) has an older two-stroke form with suggestion of bow and tail, beside the folded-stem letter.

S (tab. 4, col. 30), in the abbreviation *conss.*, is the older double curve changed to a broken line.

T is wanting.

U is the simple curve, hooked in ligature with a preceding letter.

X, Y, and Z do not occur.

According to Wessely's reading, the date is 396 A.D.: [*dom- (inis)*] *nn. A[rcad]io III et Honorio III perp. Augg. cons.* It seems possible from the facsimile to read, "A[rcad]io IIII" etc., which exactly corresponds to the *Fasti* for the year 396.<sup>60a</sup>

63. London, British Museum, Pap. DCCCXX.

Provenance Kaşr el Banât. Notice from a centurion in Greek with a line (l. 10) in Latin. 12 x 10.2 cm. Writing across the fibres.<sup>61</sup> Published: Grenfell and Hunt, *Fayûm Pap.*, no. 38 (p. 154).

Ligatures: *a* with *s*; *e* with *s*; *l* with *e*; *s* with *i*, *s*.

A is an older cursive form with slightly curved legs and wide angle (cp. tab. 2, cols. 5, 19; tab. 3, cols. 15, 21; tab. 4, col. 2).

B, C, and D are wanting.

E has base linked to preceding letter, with upper curve and arm joined at an acute angle (cp. tab. 2, col. 13; tab. 4, cols. 13, 28).

F, G, and H are wanting.

I hooks top left in ligature and curves left below the line (cp. tab. 2, col. 25; tab. 3, col. 24; tab. 4, col. 4, etc.).

K has stem bowed and hooked, and narrow angle with slightly curved sides (cp. somewhat similar forms, tab. 2, cols. 3, 6; tab. 3, cols. 1-3).

L is angular, with base running below the line (cp. tab. 2, cols. 20, 26; tab. 3, col. 11; tab. 4, cols. 1, 2).

M is probably quasi uncial (cp. tab. 2, col. 25; tab. 3, col. 18).

N, O, P, Q, and R are wanting.

S, standing alone, has doubled stem, hooked left, tied at base; in ligature, the stem is simple, straight, hooked at top to preceding letter, and the arm stroke curves downward to link with following letter (cp. tab. 2, cols. 14, 28; tab. 3, col. 29; line *t*, col. 30; tab. 4, cols. 11, 14).

T, U, X, Y, and Z are wanting.

The frequency of ligatures argues a comparatively late date; most of the letter forms have parallels in tabs. 2-4 (from the

<sup>60a</sup> De Ruggiero, *Dis.*, 2, 1, p. 1173; Liebenam, *Fasti*.

<sup>61</sup> Description by Grenfell and Hunt. Studied in photograph.



late first, through the fourth century) but correspond most closely, esp. *a*, *l*, and *m*, to the second-third century letters.<sup>v</sup>

63a. Leipsic, Universitätsbibliothek, Inv. Nr. 136.

"Eine Emanzipationsurkunde aus dem III Jahrh. n. Chr."<sup>62</sup>

Published: Mitteis, *Einladung der juristischen Fakultät der Universität Leipzig zur Feier des Andenkens an Dr. Lauhn*. Cp. Wilcken, A. P. 6, pp. 298-299.

64. London, British Museum, Pap. CCCLXXXIV.

"Petition addressed to the prefect by a veteran soldier, asking for redress of an injury. At the top are some remains of a mutilated Latin inscription. Third century(?). 10½ in. x 8¾ in."<sup>63</sup>

65. Norfolk, Didlington Hall, Amherst Collection, Papyrus 26. Plate opp. p. 123.

The eleventh, sixteenth, and seventeenth fables of Babrius in Greek and Latin versions. Height 25 cm. Two columns.<sup>64</sup> Published: Grenfell and Hunt, *The Amherst Papyri*, 2, no. 26, pp. 26-29 and pl. 1 (facsimile of col. 2); Ihm, in *Rheinisches Museum* 56, 1, pp. 106-112; *Id.*, in *Hermes* 37, pp. 147-151; Radermacher, in *Rh. M.* 75, pp. 142-144.

The writing is an easy rapid cursive. Ligatures are frequent: *a* with *m*, *n*, *r*, *s*, *t*, *u*; *e* with *a*, *c*, *d*, *g*, *i*, *m*, *n*, *q*, *r*, *s*, *t*; *f* with *r*, *u*; *g* with *i*, *n*, *o*, *r*; *l* with *a*, *i*; *o* with *n*, *r*; *r* with *a*, *c*, *e*, *g*, *i*, *o*, *s*, *t*, *u*; *t* with *e*, *f*, *i*, *o*, *q*, *r*, *t*, *u*; *u* with *e*.

A has the newer fourth century forms; the hook on the first leg of the older cursive letter is often so long as to meet top of leg; the uniting of the two legs in a tie gives the single-stroke letter (cp. tab. 4, cols. 5, 9, 10, 18, 23).

B has bow at right, with hooked or bowed stem (cp. tab. 4, cols. 4-11).

C has various new broken-back forms, some resembling a reversed figure 3 and some with cap meeting or crossing the back (cp. tab. 3, col. 15; tab. 4, cols. 9, 12, 24).

D has single-stroke bow, and stem oblique and hooked right (cp. tab. 3, line *c*, col. 29).

<sup>v</sup> The editors' dating is "late third or early fourth century."

<sup>62</sup> Wilcken, A. P. 6, p. 299. The original publication has not yet come to hand.

<sup>63</sup> Kenyon, *Catalogue*, vol. 2, p. xxxvi.

<sup>64</sup> Description by Grenfell and Hunt. Studied in facsimile.

No. 63

----- (5) ----- (7) ----- (11) ----- (15) -----

No. 65

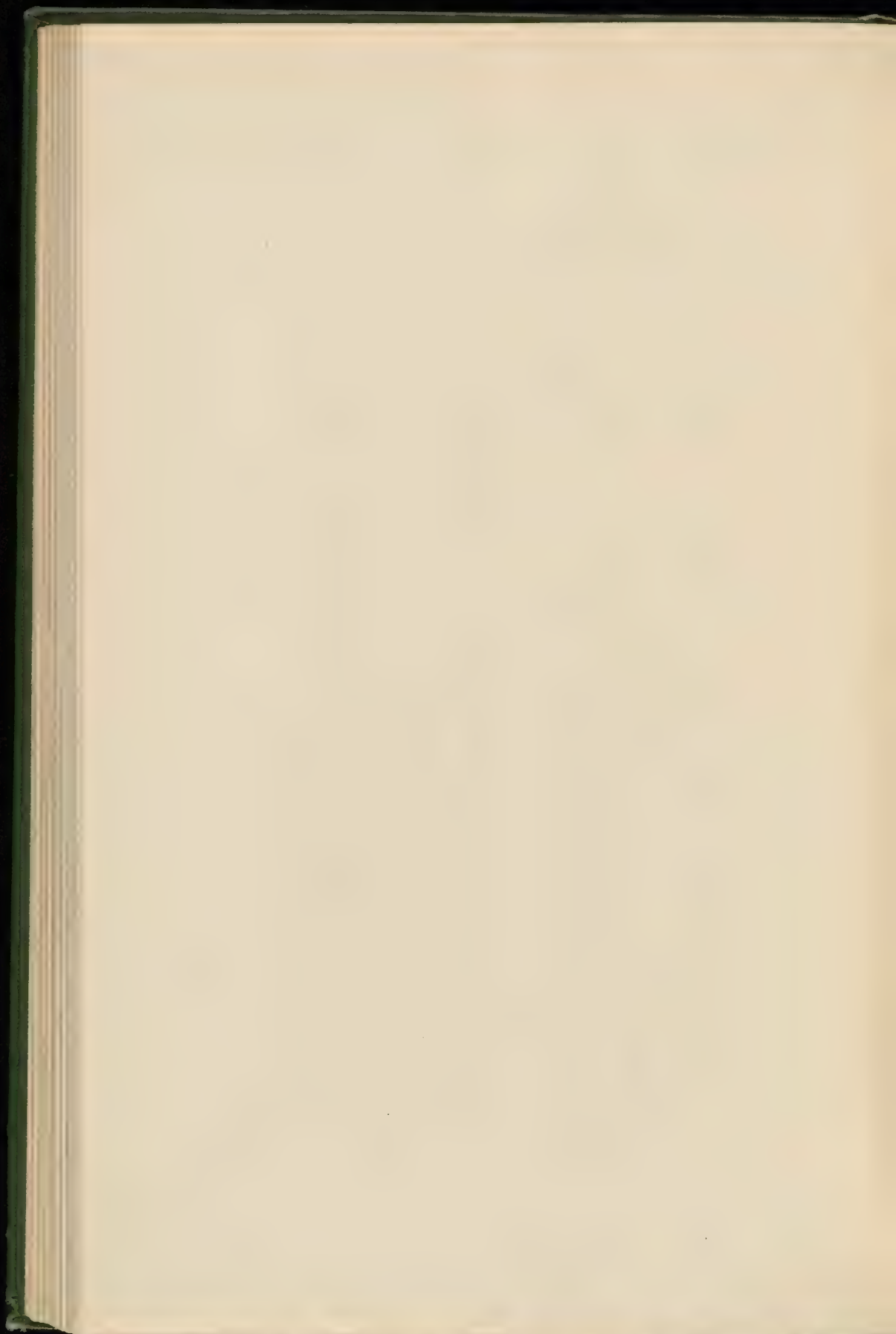
----- (15) ----- (17) ----- (19) ----- (21) ----- (23) -----  
----- (25) ----- (27) ----- (29) ----- (31) ----- (33) -----  
----- (35) ----- (37) ----- (39) ----- (41) ----- (43) -----  
----- (45) ----- (47) ----- (49) ----- (51) ----- (53) -----

No. 66

----- (55) ----- (57) ----- (59) ----- (61) ----- (63) -----  
----- (65) ----- (67) ----- (69) ----- (71) ----- (73) -----  
----- (75) ----- (77) ----- (79) ----- (81) ----- (83) -----  
----- (85) ----- (87) ----- (89) ----- (91) ----- (93) -----

No. 67

----- (95) ----- (97) ----- (99) ----- (101) ----- (103) -----  
----- (105) ----- (107) ----- (109) ----- (111) ----- (113) -----  
----- (115) ----- (117) ----- (119) ----- (121) ----- (123) -----  
----- (125) ----- (127) ----- (129) ----- (131) ----- (133) -----



E, standing alone, is a compressed uncial letter; in ligature with preceding letter, the curve is broken at top of back, and cap and arm are combined in an angle (cp. tab. 3, cols. 15, 23; line *f*, col. 21; tab. 4, col. 1, etc.).

F consists of curved and, sometimes, hooked stem, and simple curve representing cap and arm (cp. tab. 3, cols. 13, 14; tab. 4, cols. 6, 8).

G has double-curved tail with flat half cap; ligature with preceding letter is by hook at top of stem, with following, through cap (cp. tab. 3, col. 15; tab. 4, cols. 4, etc., 16). (The first form in the plate above is probably a correction.)

H is a single-stroke minuscule with long finishing hook left at top (cp. tab. 3, col. 21; tab. 4, col. 2, etc.).

I is generally short, curved or hooked left, occasionally running below the line in ligature (cp. tab. 3, line *h*, cols. 26, 30; tab. 4, cols. 2, 4, 7-9, 15-17).

K does not occur.

L has upward curving base and, on the stem, generally long finishing hook, sometimes small bow (cp. tab. 4, cols. 2-5).

M is regularly minuscule (cp. tab. 3, col. 26, etc.; tab. 4, cols. 1, 5, etc.).

N is minuscule (cp. tab. 4, cols. 1-3, 5, 17).

O is roughly oval, with ligatures by hook, tangent, or intersecting tangents (cp. tab. 3, cols. 4, 15, 21, 24; tab. 4, cols. 2, 9, 11, 18).

P shows both single and two-stroke forms with stem curved either right or, generally, left (cp. tab. 3, col. 6; tab. 4, cols. 3, 4, etc.).

Q has open or closed bow made with one or two strokes, with tail oblique or hooked left (cp. tab. 3, cols. 2, 18; tab. 4, cols. 2, 3, 8); the bow hooks in ligature with preceding letter.

R shows regularly the forms with clubbed or folded stem, and round or angular shoulder (cp. tab. 3, col. 21; tab. 4, cols. 8, 13, etc.).

S is a narrow double curve or a peculiar two-stroke letter with curved stem and upward, rounding arm or cap (cp. tab. 4, cols. 15, 16, 19, 20, 28).

T has slightly hooked stem, with flat cap linking with following letter; ligature with preceding letter is by hook at top of stem above or below cap (cp. tab. 3, cols. 1, 4, 14; tab. 4, cols. 1, 5, 6, etc.).



U is the simple curve or the similar two-stroke form, with slight finishing hooks, linked by hook or tie with letter on either side (cp. tab. 3, cols. 10-12, 14, 21; line *x*, col. 29: tab. 4, cols. 6, 7, 9, 14, 16).

X, Y, and Z are wanting.

The forms of the letters here most resemble those of table 4, *d* alone seeming a trifle older. The absence of long folded, looped, and double-looped stems perhaps indicates the earlier part of the fourth century.<sup>w</sup>

66. Vienna, Hofbibliothek, Sammlung Rainer, Ausstellungs-Nr. 517. Plate opp. p. 123.

Official sentence. Bilingual, Greek and (1. 5) Latin. On the verso two lines in Greek. 17 x 24 cm. Broken at left. Published: Wessely, *Schrifttaf.*, no. 14.

The writing is in a rather rough cursive hand. Ligatures are fairly frequent: *a* with *d*, *t*; *e* with *c*, *m*, *n*(?), *s*; *l* with *e*, *i*; *o* with *r*; *r* with *a*, *e*; *t* with *a*, *i*, *o*, *p*, *s*.

A, in the large hook of the first leg, approaches, or, in ligature high in the line, becomes the cursive minuscule with tail at an angle or in a tie with bow (cp. tab. 4, cols. 4, 5, 11).

B is wanting.

C is broken high in the back (cp. tab. 4, cols. 17, 20).

D has the single-stroke form, with stem oblique right and hooked or tied left (cp. tab. 3, line *d*, col. 30; line *c*, col. 30: tab. 4, col. 1).

E has the broken-back form with cap and arm combined in angle or curve (cp. tab. 3, cols. 8, 19, etc.; tab. 4, col. 1, etc.).

F, G, and H are wanting.

I, standing alone, is straight or hooked; in ligature, is curved and hooked right or left below the line, or runs above the line in a loop (cp. tab. 3, cols. 1, 8, 24, etc.; line *g*, col. 29: tab. 4, cols. 1, 4, 24, 28).

K is wanting.

L has stem straight or curved or hooked left, and base curving slightly upward and hooking in ligature with following letter (cp. tab. 3, col. 27; tab. 4, cols. 2-5, 9, 20).

M is minuscule (cp. tab. 3, cols. 22, 26; tab. 4, cols. 1, 5).

N is minuscule (cp. tab. 4, cols. 6, 12).

<sup>w</sup> "The papyrus may be assigned to the end of the third or early part of the fourth century"—Grenfell and Hunt, *l.c.*

O is small and circular, linking by intersecting tangents (cp. tab. 3, cols. 2, 4, 21; tab. 4, cols. 1, 14, 19).

P, in two strokes, has stem curved left below the line; ligature is through top of stem (cp. tab. 3, col. 12; tab. 4, cols. 4, etc., 18).

Q is wanting.

R, always in ligature, has single or doubled stem, with arched shoulder and arm (cp. tab. 3, cols. 8, 21; tab. 4, cols. 3, 9, etc.).

S has simple or clubbed stem with upward arm curving downward (cp. tab. 3, col. 28; tab. 4, cols. 11, 19).

T has curved stem and flat or curved cap; ligature with preceding letter is through top or base of stem (cp. tab. 3, cols. 1, 3, 14; tab. 4, cols. 1, 6, 11, 13, 15).

U is a simple curve or an angle, once placed above the line (cp. tab. 3, cols. 1, 13, 24; tab. 4, cols. 1, 14, 20).

X, Y, and Z are wanting.

Comparison of the letters in this ms. with the forms of tab. 4 clearly places it in the fourth century, perhaps about the middle of the century (cp. esp. the *u* above the line with tab. 4, col. 20).<sup>x</sup>

67. Cairo, Pap. 10268. Plate opp. p. 123.

Provenance probably Ashmunen. Account of a suit before the governor of the Thebaid. Bilingual, Greek and (ll. 6, 8, 10) Latin. 22.2 x 21.5 cm. 2 pieces joined.<sup>65</sup> Noticed by Grenfell and Hunt, *Catalogue*.

The writing is in an easy cursive, with fairly frequent ligatures: *a* with *e, i, t*; *e* with *i, m, n, s, t*; *s* with *t*; *t* with *h*; *u* with *p, s*.

Abbreviations: *d(ixit)*, *Thebaid(is)*, *v(ir) p(erfectus)*.

Abbreviation marks: the point, the short oblique, or the long oblique drawn through the last letter.

A has first leg hooked long or bowed, and looped to second leg (cp. tab. 4, cols. 9, 10, 23).

B has stem hooked left and bow at right (cp. tab. 4, cols. 8, 9).

C is wanting.

D has simple stem oblique right, hooked left (cp. tab. 3, cols. 2, 7; tab. 4, col. 1; tab. 5, col. 5).

<sup>x</sup> "Anfang des IV. Jahrh. . . . Die griechische Schrift zeigt die Übergangsformen des III. auf das IV. Jahrh."—Wessely, *l.c.*

<sup>65</sup> Description by Grenfell and Hunt. Studied in photograph.

E has straight or curved lower member, with curve representing cap and arm (cp. tab. 3, cols. 8, 23, etc.; tab. 4, cols. 1-3, etc.).

F and G are wanting.

H is minuscule but is, unusually, a short-stem letter like *t* etc., so as to resemble minuscule *n* or Greek  $\eta$  (cp. tab. 3, col. 3; tab. 4, col. 8).

I, standing alone, is short and curved or hooked left; in ligature, long (cp. tab. 3, col. 27; line *h*, col. 26; tab. 4, cols. 2, 6, 8).

K and L are wanting.

M is minuscule (cp. tab. 3, col. 26, etc.; tab. 4, col. 5, etc.).

N is minuscule (cp. tab. 4, col. 7, etc.).

O is small and oval (cp. tab. 3, cols. 2, 5; tab. 4, cols. 1, 14).

P is a single-stroke letter with bow line closed, sometimes crossing the stem which goes below the line, curving left (cp. tab. 3, col. 12; tab. 4, cols. 6, 21).

Q does not occur.

R has the older form with low curving cap suggesting the capital bow and tail (cp. tab. 3, col. 12; tab. 4, col. 23).

S has clubbed or tied stem with upward oblique arm (cp. tab. 3, cols. 13, 28-30; tab. 4, cols. 4, 22).

T has small hook at base of stem and generally flat cap; the link with preceding letter is at top of stem, either beneath or intersecting the cap (cp. tab. 2, cols. 11, 13; tab. 3, cols. 4, 14; tab. 4, cols. 1, 13, 27; tab. 5, esp. cols. 27-29).

U is the simple curve or the minuscule, high in the line in ligature with following letter (cp. tab. 3, cols. 4, 16; tab. 4, col. 4).

X, Y, and Z are wanting.

The letter forms, particularly *a*, *b*, *e*, indicate, as an approximate dating, the first half of the fourth century.

68. Cairo, 10723.

Provenance probably Ashmunen. Fragmentary account of a lawsuit before the governor of the Thebaid. Bilingual, Greek and (ll. 4, 5, 7) Latin. 8.6 x 6.5 cm.<sup>66</sup> Noticed by Grenfell and Hunt, *Catalogue*.

The hand is very similar to, if not identical with that of the preceding document. Ligatures: *a* with *i*; *c* with *l*; *e* with *b*, *i*, *p*, *t*; *r* with *o*; *t* with *h*.

<sup>66</sup> Description by Grenfell and Hunt. Studied in photograph.







Abbreviations: *d(ixit)*, *Thebaid(is)*, marked by an oblique cross stroke or a mark 3.

A has legs looped, in the quasi minuscule form (cp. tab. 4, col. 5, etc.).

B has clubbed stem, with bow at right (cp. tab. 4, col. 10, etc.).

C has a tilted, curved form, beside the more usual form with flat or oblique cap; ligature occurs at top of back (cp. tab. 3, cols. 5, 14, 25; tab. 4, cols. 20, 24).

D has stem oblique right and hooked left (cp. tab. 3, cols. 2, 7; tab. 4, col. 1).

E has curve broken at top of back; in one form the back appears to tie with the curve representing cap and arm (cp. tab. 3, col. 8, etc.; tab. 4, col. 1, etc.).

F and G are wanting.

H is minuscule, with short stem (cp. tab. 3, col. 3; tab. 4, col. 8).

I curves and hooks left, far below the line; ligature is by hook or by hook and bow (cp. tab. 3, col. 27; tab. 4, cols. 4-6, 18).

K, L and M are wanting.

N is minuscule (cp. tab. 4, col. 1, etc.).

O is small and oval (cp. tab. 3, col. 2, etc.; tab. 4, col. 1, etc.).

P and Q are wanting.

R has curved stem with separate-stroke waved cap.

S has clubbed stem (cp. tab. 3, col. 29; tab. 4, cols. 7, 8).

T has straight or curved stem and cap; ligature occurs at top of stem beneath cap (cp. tab. 3, cols. 4, 14; tab. 4, cols. 2, 13).

U, X, Y, and Z are wanting.

The date is, like that of the preceding document, probably the first half of the fourth century.

69. Location ? *Tebt. Pap.* 688.

A Letter in Latin—"from or to Fabianus." On the verso, the address. 10.8 x 4.3 cm. "Fourth century?"<sup>67</sup>

70. Strassburg, Universitätsbibliothek, P. Lat. Argentinensis I.

<sup>67</sup> *Tebt. Pap.*, 2, no. 688 (p. 334). No notes are made as to the writing, whether capital, uncial, or cursive.

A letter on the recto with address on the verso. 27 cm. square. Writing along the fibres on both sides of the ms.<sup>68</sup> Published: Bresslau, in *A.P.* 3, pp. 168-172.

The writing is in a rather finished cursive hand, the most common letters generally appearing in ligature: *a* with *b, d, e, i, l, m, n, r, s, t, u, x*; *b* with *a, e, i, u*; *c* with *h*; *d* with *e*; *e* with *a, b, c, d, e, i, n, o, p, r, t*; *f* with *a, i, r*; *g* with *a, n*; *h* with *e, o, u, y*; *l* with *a, i, u*; *o* with *m, n*; *r* with *a, e, h, i, r, u*; *u* with *e, i, m, n, o, r, s*.

*A* closely approaches the open minuscule form, often with tie at top (cp. tab. 4, cols. 4, 5, 7, 10, 17, 18, 24, 27-30; tab. 5, cols. 2, 6, 7, 11, 18, 30).

*B* has bow at left but the stem is generally oblique and looped (cp. tab. 4, cols. 18, 19; tab. 5, cols. 6, 16, 20).

*C* has the broken-back form (cp. tab. 4, cols. 1, 8, 15, 17, 20; tab. 5, cols. 2, 4, 6-8).

*D*, made with either one or two strokes, has simple stem oblique right and finished with hook right or left or, occasionally, with a long tie (cp. tab. 4, cols. 1, 2, etc.; tab. 5, cols. 5, 7, 18).

*E* is generally a broken uncial; occasionally the upper part is looped, bowed, or clubbed, to combine with arm (cp. tab. 4, cols. 1, 7, 11; line *f*, cols. 18, 20; tab. 5, cols. 3, 6, 7, 9, 10, 12, 23, etc.).

*F* is made with three or, more often, two strokes; either with cap and stem combined in a double curve or with cap and arm in an angle (cp. tab. 3, cols. 2, 3, 6, etc.; tab. 4, cols. 6, 8; tab. 5, cols. 2, 5, 6).

*G* has double-curved tail, with or without cap stroke; or the 3-shaped form with half cap at right linking to following letter (cp. tab. 4, cols. 10-12, 14, 15, 17; tab. 5, cols. 12, 13, etc.).

*H* has straight, hooked, or double-looped stem; it occurs once in ligature with following letter (cp. tab. 4, cols. 3, 6, 13; tab. 5, cols. 3, 6, 8).

*I* has simple stem, regularly hooked left, sometimes with bow at top (cp. tab. 4, cols. 1, 2, 4, 6-10, 12; tab. 5, cols. 1-4, 11, 17).

*K* is wanting.

*L* has upward curving base; and stem hooked in angle or curve, bowed, or looped (cp. tab. 4, cols. 2, 12, etc.; tab. 5, col. 4).

<sup>68</sup> Description by Bresslau. Studied in facsimile.

M is a broad minuscule (cp. tab. 4, col. 1, etc.; tab. 5, col. 4, etc.).

N is generally capital; with finishing hook at top of second stem; again, the transverse springs from base of first stem and unites in a curve with diminished second stem (cp. tab. 3, cols. 5, 22, etc.; tab. 4, col. 13); minuscule forms are occasional in ligature (cp. tab. 4, cols. 7, 16; tab. 5, col. 3).

O is round or oval, often open at top or side; linking by tangent or intersecting tangents (cp. tab. 4, cols. 1, 2, 4, 7, 13, 18; tab. 5, cols. 1, 6, 8, 11, 23).

P has simple stem going below the line, sometimes written in a single stroke with the bow; ligature is through top of stem (cp. tab. 4, cols. 3, 4, 11, 18; tab. 5, cols. 2, 4, 5, 10, 17).

Q has bow open at top; and tail oblique left, hooked either side (cp. tab. 4, cols. 7, 8; tab. 5, cols. 8, 15).

R has sometimes separate arm stroke, sometimes the single-stroke form with tied, clubbed or folded stem; long downward hooked finials are occasional (cp. tab. 4, cols. 1, 2, 5, 6, 8, 9, 11, 19; tab. 5, cols. 1-4, 6, 8, 10, 11).

S shows various forms: the single-stroke double curve, the curved stem and separate-stroke curved cap, and the single-stroke form with clubbed or tied stem and downward curving cap (cp. tab. 4, cols. 1, 9-12, 25; tab. 5, cols. 1, 6, 8, 18).

T has hooked stem and waved cap (cp. tab. 4, cols. 3, 7, 8, 10, 11; tab. 5, cols. 1-3, 5, 13, 14).

U is the simple curve, sometimes finished with a bow, occasionally written above the line in horizontal or erect position (cp. tab. 4, cols. 1, 14, 20, 26, 30; tab. 5, cols. 1, 2, 5, 7, 9-11, etc.).

X has one or both crossarms double-curved; ligature is through upper right arm.

Y is a single-stroke letter with clubbed stem or with hook and tail.

Z is wanting.

The letter forms correspond most closely to those of table 4; the looped forms of *b* and *e* argue for a dating in the latter part of the fourth century.<sup>xx</sup>

<sup>xx</sup> "Die Abfassungszeit lässt sich aus paläographischen Gründen allein nicht sicher bestimmen . . . Für die Ansetzung ins 4. Jahrhundert könnte vielleicht die Gestalt des nach links gewandten *b* geltend gemacht worden das von dem *d* sich nur wenig unterscheidet, abgesehen davon dass das letztere nie, das erstere in der Regel mit dem folgenden



71. Società Italiana per la ricerca dei Papiri greci e latini in Egitto, no. 110.

Provenance Oxyrhynchus. "Frammenti della catilinaria di Sallustio." 6.4 x 5.7 cm. "La scrittura è corsiva con elementi di unciale e si può attribuire al sec. IV."<sup>69</sup>

72. Leipsic, Universitätsbibliothek, Inv. Nr. 1. Plate opp. p. 129.

Provenance Hermupolis. Hearing in a criminal case. Bilingual, Greek and Latin. 31 x 124 cm.<sup>70</sup> Published: Mitteis and Wilcken, in *A.P.* 3 (1906), pp. 106-112, and in *Gr. Urk.*, no. 40, p. 127.

The writing is in a rapid cursive hand, occasionally flourished, with many ligatures: *a* with *c, d, e, i, m, n, t*; *b* with *a, e*; *c* with *h, i*; *d* with *d*; *e* with *b, c, e, i, n, o, r, x*; *f* with *i, l, u*; *i* with *d*; *l* with *a, e, l*; *m* with *a*; *n* with *e, t*; *o* with *n, r*; *r* with *a, e, m, o, t*; *t* with *a, d, i, o, u*; *u* with *s, u*; *x* with *c*.

Abbreviations: *adiut(or)e* (?), *adv(ocatus)*, *Beronicianu(s)*, *Beronician(us)*, *comm(entariensis)*, *d(ixit)*, *Fl(avius)*, *Herminu(s)*, *pr(aeses)*, *superstat(ionarius?)e(?)*, *Tebaei(dis)*, *v(ir) c(larissimus)*.

The oblique line across the letter marks the abbreviation for *dixit*.

A has initial long hook and two stems, or the open cursive minuscule form, often high in the line in ligature with a following letter (cp. tab. 4, cols. 4, 15, 26-30; tab. 5, cols. 1, 6, etc.).

B has stem slightly oblique right, hooked left or looped; the bow, except once in ligature with preceding letter, is at right,

Buchstaben ligiert wird; doch ist ein sicheres Urteil daraus nicht zu gewinnen da . . . dies *b*, wenigstens in einzelnen Stücken, sich noch bis zum Ende des 5. Jahrh. erhalten hat. . . Auch die Ausdrucksweise ermöglicht keine sichere Entscheidung . . . So bleibt für die Entscheidung nur der Titel *ἡγεμῶν Φοινικῆς* der an dem Achillius gegeben wird . . . Die ungeteilte Provinz stand im Anfang des 4. Jahrh. unter einem *praeses*, noch 342 wird Marcellinus *praeses Phoeniciae* genannt (*Cod. Iust.* 2, 57, 1). Dann wurde der Statthalter zum *consularis* befördert . . . (*Cod. Theodos.* 12, 1, 52). Nach der Teilung behielt die Küsterprovinz einen *consularis* während die binnenlandische einem *praeses* unterstellt wurde. Da nun *ἡγεμῶν* . . . *praeses* entspricht während *consularis* durch *κονσουλάρως* wiedergegeben oder durch *ὑπατικός* übersetzt" . . . Bresslau, in *A. P.* 3, p. 178, who concludes that the papyrus is at least earlier than the year 362.

<sup>69</sup> Description in *Papiri greci e latini*, vol. 1, no. 110.

<sup>70</sup> Description by Mitteis and Wilcken. Studied in photograph.

sometimes closed by a separate stroke (cp. tab. 4, cols. 13-17, 19; tab. 5, col. 1).

C is round or broken at some point in the back; the upper part of the letter is variously: a flat, straight, or angular cap; an oblique; or a curve with finishing hook (cp. tab. 3, cols. 13-15, 21; tab. 4, cols. 7-9, 15-18; tab. 5, cols. 1, 3, 4, 8, 16, 20).

D, made with one or two strokes, has stem straight, hooked left, clubbed, folded, or double-looped (cp. tab. 4, cols. 1-5, 17; tab. 5, cols. 2, 5, 10, etc.).

E has regularly the broken form with cap and arm in angle or curve; in one form the upper curve is so low as to make the letter resemble *a*; occasional forms have separate-stroke arm, or upper curve bowed or folded to springing point of arm (cp. tab. 3, cols. 8, 23; line *g*, cols. 21-23; tab. 4, cols. 1, 4, 11, 13, 30; line *g*, cols. 18, 20, 22; tab. 5, cols. 6, 9, 10).

F has hooked or double-curved stem with cap and arm represented in angle, curve, or loop with arm hook; the omission of upper side of angle, i.e. of cap, often makes a form resembling the cursive *r* (cp. tab. 3, cols. 13, 14, 18-20; tab. 4, cols. 5, 6, 8, 9; tab. 5, cols. 5, 6, 11).

G is wanting.

H has stem straight, curved or hooked left, or clubbed (cp. tab. 3, cols. 19, 20; tab. 4, cols. 2-5, 10; tab. 5, cols. 3, 12).

I, short or long above or below the line, regularly bends or hooks left, except one form where the stem seems to hook right at base in ligature with following letter (cp. tab. 3, cols. 18, 22, 24, 29; line *h*, cols. 26, 30; tab. 4, cols. 2, 5, 6, 15; tab. 5, cols. 2, 3, 16, 17).

K is wanting.

L has upward curving base, and stem variously straight, curved right, bowed, clubbed—starting at right or left of stem—folded, or double-looped (cp. tab. 4, cols. 5-7, 16, 18, 20; tab. 5, cols. 5, 10, 12, etc.).

M is minuscule (cp. tab. 4, cols. 1, 4; tab. 5, cols. 1, 3, 15).

N is either capital or minuscule (cp. tab. 4, cols. 1, 2, 13; tab. 5, cols. 1, 15); unusual are the ligatures with following letter, through hook at base of second stem or through link stroke drawn from a point high in the stem (cp. tab. 4, col. 8).

O is oval, generally a single-stroke letter; ligatures are through tangents, above, beneath, or intersecting (cp. tab. 3, cols. 1-5, 12, 15, 21; tab. 4, cols. 1, 2, 11, 12, 15-20; tab. 5, cols. 1-3, 6, 8).

P has stem oblique left, sometimes bent or hooked right or left; ligature is through hook at top of stem (cp. tab. 4, cols. 1, 2, 12, 20; tab. 5, cols. 1, 3, 6, 17).

Q has open angular bow, with tail curved left (cp. tab. 4, col. 6; tab. 5, cols. 1, 2, 5).

R is either a two-stroke letter with simple stem or a single-stroke form with clubbed or folded stem (cp. tab. 3, cols. 8, 9, 21; tab. 4, cols. 1, 2, 9, 15; tab. 5, cols. 6, 7).

S has simple, clubbed, or folded stem, with upward arm hooked downward (cp. tab. 4, cols. 2, 3, 8, 9, 13, 14, 16, 17, 28; tab. 5, cols. 2, 4-7, etc.).

T has various length of hook at base; ligature with preceding letter is at top of stem beneath cap (cp. tab. 4, cols. 8, 11, 13, 29; tab. 5, cols. 1-3, 29).

U is either a simple curve or angle or a minuscule; unusual are ligatures with following letters by hook at top of second part of the simple curve or angle (cp. tab. 3, cols. 1, 6, 19; tab. 4, cols. 1, 15, 21; tab. 5, cols. 2, 5, 8, 11).

X has rather sweepingly curved crossarms (cp. tab. 3, cols. 1, 3, 15; tab. 4, cols. 4, 9; tab. 5, cols. 1, 2).

Y and Z are wanting.

The letter forms in general correspond to those of the late fourth or early fifth century; some forms of *d*, *e*, *f*, *q*, *r*, *u* make for the latter date.<sup>7</sup>

73. Vienna, Hofbibliothek, Sammlung Rainer, Ausstellungs-Nr. 519-521.

Four fragmentary copies of a receipt. No. 519 measures 12.5 x 27.7 cm. Above the first line is some scribbling. Lines 1-2 contain the first copy; then follows a blank space of about 5 cm., after which (ll. 4-5) is a second copy. No. 520, 7 x 14 cm. Two lines containing a third copy of the receipt. No. 521, 7.8 x 13 cm. Two lines with still a fourth copy.

<sup>7</sup> "Das Alter dieser Verhandlung lässt sich leider nicht mit voller Sicherheit angeben, da das Datum des Protokolls nicht erhalten, die Person des Präses Flavius Leontius Beronicianus aber nicht festzustellen ist. Mommsen hat laut einer auf grund des ersten Drucks mir gemachten brieflichen Mitteilung denselben mit jenem Beronicianus identifizieren wollen, der i. J. 451 auf dem Konzil von Chalkedon intervenierte (Mansi, *Coll. Concil.* 7, 9) und diesen wieder mit dem in den *Gesta Sen. de Theod. Cod. publicando* c. 7 genannten; doch ist dies, obwohl der Papyrus nach der Schrift noch in die ersten Dezennien des 5. Jhd. gesetzt werden könnte, natürlich ganz unsicher"—Mitteis and Wilcken, *Gr. Urk.*, p. 131.



Published (Nos. 520-521) : Wessely, *Schrifttaf.*, nos. 17-18. Cp. *Führer*, nos. 519-521;<sup>71</sup> Karabacek, in *Öst. Monatschr. f. d. Orient* 1884, p. 280; *Id.*, in *Mitth. aus d. Samml.* I, p. 52; Prou, p. 68.

The writing is in a rather cramped hand; the letters stand vertically and close together.<sup>a</sup> Ligatures are almost continuous: *a* with *c*, *l*, *r*, *s*, *u*(<sup>a</sup>); *b* with *a*(<sup>a</sup>); *c* with *e*, *h*, *t*; *e* with *a*, *c*(<sup>a</sup>), *n*, *p*, *r*, *s*, *t*, *y*; *g* with *i*; *l* with *e*, *l*; *n* with *o*(<sup>a</sup>); *o* with *m*(<sup>a</sup>), *n*, *r*; *r* with *g*, *i*; *s* with *e*; *t* with *c*, *e*, *i*, *u*, *y*; *u* with *a*, *c*(<sup>a</sup>); *y* with *c*(<sup>a</sup>).

Abbreviations: *Aug*(*ustus*), *cons*, *easdd*(= *easdem*?), *ind*(*ictione*), *kall*(*kalendas*), *p*(*er*), *p*(*erpetuus*), *v*(*ir*) *c*(*larissimus*). Abbreviation marks: the upward curve, ), or hook, and the oblique cross stroke.

A (tab. 5, cols. 1-3) is the open minuscule, the development to which can be traced almost step by step in the forms of tab. 4.

B (tab. 5, cols. 1, 2<sup>b</sup>) has bow at right of stem, sometimes closed by a straight stroke.

C (tab. 5, cols. 1-3, 4<sup>b</sup>), standing first in a ligature, is made with a single stroke and the upper part of curve is prolonged to link with following letter; other forms, standing between other letters in ligature, are broken into two strokes, high or low on back of curve according as final stroke of preceding letter ends high or low in the line.

D (tab. 5, cols. 1-2<sup>b</sup>, 3, 4) shows forms with looped stem.

E (tab. 5, cols. 1-5) shows a variety of forms; the older compressed uncial beside the cursive minuscule; in ligature, as in the case of *c*, the back of curve is broken to link the lower part to preceding letter; the upper part of curve is looped back to the point from which the arm springs and thus is made in the same stroke with the arm.

F is wanting.

G (tab. 5, cols. 1, 2) has a single-stroke, 3-shaped form, its upper curve simplified to an oblique line joined to cap at an angle; the cap links with preceding letter.

H (cols. 1, 2<sup>b</sup>, 3, 4) is a single-stroke letter, the curve rising from base of stem; the stem has long hook or fold.

<sup>71</sup> Cp. letter received from the Sammlung Rainer on p. 14, n. o.

<sup>a</sup> This and the following remarks are based partly on Wessely's facsimile and partly on my brief glance at the original.

<sup>a</sup> From Wessely's facsimile.



I (tab. 5, cols. 1-7), standing alone, usually is short; when joined to preceding letter by hook, it hangs below the line; when double-looped, it runs above the line.

K (tab. 5, cols. 1, 2<sup>b</sup>) has small, separate-stroke curve instead of the angle of the capital letter.

L (tab. 5, cols. 1, 2<sup>b</sup>, 3, 4) runs above the line, with looped or folded stem, and links with following letter by upward curving base, like our modern cursive minuscule.

M (tab. 5, cols. 1-3) is regularly minuscule.

N (tab. 5, cols. 1-3) is minuscule.

O (tab. 5, cols. 1-5) is small and circular; links are by tangent above the circle.

P (tab. 5, cols. 1-3) runs below the line, curving right or left.

Q (tab. 5, cols. 1, 2) has curve open and tail oblique left.

R (tab. 5, cols. 1, 2) has the single-stroke form with clubbed stem.

S (tab. 5, cols. 1-3<sup>b</sup>, 4, 5) shows regularly the single-stroke letter with tie or angle at bottom, standing in ligature.

T (tab. 5, cols. 1-4) has both strokes sharply curved, in col. 4 with half cap.

U (tab. 5, cols. 1-4) shows the regular simple curve beside the minuscule form.

X (tab. 5, col. 1) occurs only as numeral, with one crossarm curved.

Y (tab. 5, col. 1) is the single-stroke cursive letter, here in ligature.

Z is wanting.

The date, *post cons. dom. n. Honorii p. Aug. quater et Eutychiani v. c. ind. XIV*, corresponds to the year 398 A.D.

#### 74. Vienna, Hofbibliothek, Sammlung Rainer.

Certification of four *protectores* to the *tribunus quintanorum*.

<sup>b</sup> Based solely on Wessely's facsimile (*l.c.*). Very unfortunately, my study of the original documents in Vienna was limited to a brief visit to the collection on a snowy, dark day. Dr. Wessely was at great pains to show me them all before the library's closing hour on what was the last day, it seemed, before the Easter vacation, and cordially assured me of the freedom of the collection—after the vacation, which outlasted my possible stay in Vienna. I have, however, ventured, in case of this ms., which was the only one there which I read, to include letter forms differing from those of Dr. Wessely's facsimile—they will at least serve to show something of the difficulty attending the reading and free hand reproduction of the letters in these papyrus fragments.

Bilingual, Greek and (ll. 1-11) Latin. Published: Wessely, *Schrifttaf.*, no. 21 (with facsimile).

The writing is a finished cursive. Ligatures are frequent: *a* with *d, f, i, m, n, p, r, s, t*; *b* with *e, t, u*; *c* with *h, i, o*; *e* with *c, f, n, p, r, s, t, u, x*; *f* with *e, i*; *g* with *a*; *h* with *o*; *l* with *i, o*; *o* with *c, n, r, t*; *r* with *a, e, i, n, o, u*; *t* with *a, e, i, o, r, u*; *u* with *m*; *x* with *i, t*.

Abbreviations: *locor(um)*, *quintanor(um)*, *sal(utem)*, *trib(unus)*. Beside the oblique cross stroke on the last letter of an abbreviation, a new abbreviation mark occurs here, a prolongation downward to the right of the final stroke of the last letter.

A (tab. 5, cols. 1, 2, 4), generally in ligature, has the open minuscule form.

B (tab. 5, cols. 3-6) once has bow at right, but generally, as generally in ligature with a following letter, has bow at left.

C (tab. 5, cols. 5-8) has curve broken near base; ligature with following letter is through base.

D (tab. 5, cols. 5-10), generally in ligature, has stem straight or oblique right, with bend or hook on either side, or, sometimes, double-looped.

E (tab. 5, cols. 6-11) has curve broken at various points in the back; the upper back with cap and arm is variously a single-stroke angle or curve, a loop or bow with hook representing arm, or the older form with arm written with separate stroke.

F (tab. 5, cols. 1-3) has long hooked stem running below the line, sometimes in a single stroke with cap; ligature with preceding letter is by hook at top of stem, the cap being then an upward oblique arm (col. 3).

G (tab. 5, col. 3) shows the upper part of the double-curved tail simplified to a nearly straight vertical.

H (tab. 5, cols. 5, 6) is minuscule, with looped or double-looped stem.

I (tab. 5, cols. 2, 3, 8-12), standing alone, is short, or long above the line and hooked, top left, bottom right; in ligature it curves left below, or has double loop above the line.

L (tab. 5, cols. 5-10) has base curving upward and stem hooked, bowed, or double-looped.

M (tab. 5, cols. 3, 4, 7) is minuscule.

N (tab. 5, cols. 1, 4, 14, 15) is minuscule.

O (tab. 5, cols. 1-3, 6-9) is roughly oval, made with one or two strokes; ligature is by hook, tangent, or intersecting tangents.

P (tab. 5, cols. 3-9) has stem running below the line, curved left, with hook right or left; the bow is made with separate stroke and hooks upward in ligature with preceding letter.

Q (tab. 5, cols. 3-5) has curve or angle open at right and tail curving left; sometimes resembling the older cursive *g*.

R (tab. 5, cols. 3-9) has sometimes simple stem with separate arm stroke, but oftenest clubbed or folded stem with high curved or angular shoulder.

S (tab. 5, cols. 2-9) has either simple, straight or curved, stem with upward arm stroke, or the single-stroke form with clubbed, tied, or looped stem.

T (tab. 5, cols. 1-3, 5-7) has curved strokes; the cap curves downward or upward in ligature according to height of following letter.

U (tab. 5, cols. 1, 4-11) is a single or two-stroke simple curve, or a two-stroke quasi minuscule; it is sometimes placed above the line in vertical or horizontal position, especially when in ligature with a following letter.

X (tab. 5, col. 2) has one crossarm double-curved.

Y and Z are wanting.

An approximate date is gained from the name of *Fl. Gaiolus trib. quintanor*. "der auch in einer anderen, aus dem J. 398 datierten Urkunde genannt wird."<sup>72</sup> The letter forms, especially *d, e, g, h, l, r, u*, seem clearly to belong to the late fourth (?) or early fifth century.<sup>c</sup>

75. Vienna, Hofbibliothek, Sammlung Rainer, Austellungs-Nr. 523.

Three fragments of a letter (?). a) 14 x 23 cm. b) 9 x 6 cm. c) 8 x 7 cm.

Published: Wessely, *Schrifttaf.*, no. 25 (with facsimile); Faass, in *Arch. f. Urk-forsch.* 1, p. 198.

Two hands appear in fragment *a*; the first, a large, vertical, careful, rather artificial hand, wrote the document as well as the names of the senders; the second, a rapid, less careful hand, inserted (l. 2), apparently, the name of the addressee.<sup>d</sup>

<sup>72</sup> Wessely, *l.c.*

<sup>c</sup> "IV. Jahrhundert"—Wessely, *l.c.*

<sup>d</sup> "Kaisercursive"—Wessely, *l.c.*

Ligatures are fairly frequent throughout: *a* with *c, e, l, m, n, r, t*; *e* with *a, c, g, m, n, s, t, x*; *g* with *a*; *l* with *i*; *r* with *c, e, o*; *s* with *i*; *t* with *a, e, i*.

Abbreviations: *Fl(avius)* and *cos(??)*, marked by a vertical waved line }°.

A (tab. 5, cols. 7-12) has transitional forms between the older cursive and the minuscule.

B (tab. 5, col. 7) has looped stem with open bow at right.

C (tab. 5, cols. 8-13) has a form with curve unbroken and cap finished in a spiral, beside the forms with curve broken at various points in the back.

D (tab. 5, cols. 11-13), in the second hand, has simple stem with separate-stroke bow; in the first hand, the stem is double-looped.

E (tab. 5, cols. 12-17) has arm sometimes separate from, generally combined with cap by loop or bow; the curve is sometimes unbroken but generally broken near top of back.

F (tab. 5, col. 4) is apparently a single-stroke letter with cap looped back across the stem with a returning stroke to the right to form the arm.

G (tab. 5, col. 4) has double-curved tail hooked at top to link with preceding letter, while a short cap links to following letter.

H is wanting.

I (tab. 5, cols. 3, 11-15), standing alone, is straight or slightly curved or hooked; in ligature it curves slightly below the line.

K (?) (tab. 5, col. 4) (apparently part of an insertion on the papyrus between ll. 1-2) has stem hooked and curved, and small angle with curved sides.

L (tab. 5, cols. 8-12, 15) has stem hooked left or right, bowed, looped, or double-looped.

M (tab. 5, cols. 5-6) is minuscule, the form in col. 5 apparently having simple stems made with several separate strokes.

N (tab. 5, cols. 5-10), in the first hand, is nearly capital with more or less artificial curves; the second hand has regularly the minuscule.

O (tab. 5, cols. 10-13), small in the second hand and linked by intersecting tangents, has, in the first hand, peculiar large two-stroke forms.

\* Wessely, *Fl* §.



P (tab. 5, cols. 10-12) goes below the line; the bow is made with separate stroke.

Q (tab. 5, col. 6) has straight vertical tail, with bow slightly open beneath.

R (tab. 5, cols. 10, 11) has regularly simple straight stem, hooked left, and waving arm.

S (tab. 5, cols. 10-13) has hooked or looped stem, with cap or arm curved and hooked.

T (tab. 5, cols. 8-10) has large, hooked or curved stem; a form in ligature with preceding letter hooks back at top of stem and has half cap.

U (tab. 5, cols. 12-16) has various ornate simple curves and two-stroke forms.

X, Y, and Z are wanting.

Looking at the names (l. 1) of the senders of the letter or order,—*ianus II Fl. Vincentius cos. (??)*<sup>72</sup> *praesidi provinciae Arcadiae*, it is tempting to see in these the names *Aurelianus II Flavius Vincentius cos.* Aurelianus was the eastern consul in the year 400; in this year Roman inscriptions record only the western consul.<sup>73</sup> Flavius Vincentius was the western consul in the year 401. His colleague, in the East, was Fravita, whose name was published at Rome toward the end of March. Might it be possible, then, for a confusion to have arisen in the early part of the year 401? Although I know of no example of an error in dating exactly similar to this, I am inclined to accept this date inasmuch as the letter forms seem to support a date in that neighborhood.<sup>74</sup>

76. Cairo, Papp. 10482 (a) and 10482 (b) (formerly nos. 168, 178).

(a) 9.5 x 12.4 cm. (b) "Fragments from the beginning of a Greek document. Dated in Latin at the top."<sup>74</sup> Noticed by Grenfell and Hunt, *Catalogue*, 10482 (a), 10482 (b).

The writing is in a fairly clear cursive hand which is, how-

<sup>72</sup> Fl J —Wessely, *l.c.*

<sup>73</sup> de Rossi, *I. C.*, C. 5, p. xxxii.

<sup>74</sup> Cp. Faass, in *Archiv für Urkundenforschung* 1, p. 200—"Arcadia wurde die Provinz Mittelägypten nach dem Kaiser Arcadius (395-408) genannt . . . Indes scheint mir die Schrift einer späteren Zeit, etwa dem Ende des 5. oder Anfang des 6. Jahrhunderts anzugehören. Durch diese Tatsache erhebt sich gegen die Behauptung der Originalität unserer Urkunde ein starkes Bedenken."

<sup>74</sup> Description by Grenfell and Hunt, studied in photograph.

ever, so rapid and so individual that in so small a fragment it is difficult to be sure of the reading. Ligatures: *a* with *l*; *b* with *r*(?); *d* with *a*(?), *o*; *e* with *b*, *i*(?), *t*(?); *f* with *e*; *k* with *a*; *o* with *r*(?); *r* with *i*, *u*(?).

Abbreviations: *cos*, *kal(endas)*, *Febr(uarias)* (?), *s(ub)d(ie)*. The mark of abbreviation seems to be a short curve or oblique.

A (tab. 5, cols. 13, 14) is the older cursive with two legs, rare after the third century (cp. esp. tab. 4, cols. 1-3, 25).

B (tab. 5, col. 8) has bow at left closed by a horizontal cap which links with a preceding letter; the stem returns upon itself and links with following letter. (Forms slightly comparable to this are tab. 3, cols. 12, 14-16).

C (tab. 5, col. 14) shows the broken back, with upper and lower curves in separate strokes.

D (tab. 5, cols. 14-16) has the older forms with separate bow stroke and with stem oblique left, beside the single-stroke letter with stem folded to link with following letter.

E (tab. 5, cols. 18, 19) has the broken back, with arm running low to link with following letter.

F (tab. 5, col. 5) shows a quite cursive form; the stem is double-curved; cap and arm are united in a sweeping curve which links with following letter.

G and H probably do not occur.

I (tab. 5, cols. 16, 17) links with preceding letter at top and runs downward left, either short or long.

K (tab. 5, col. 5) has hooked stem and curved arms; ligature is through lower arm.

L (tab. 5, col. 13) has hooked stem with base curving downward, as rarely after the third century (cp. tab. 3, cols. 5, 14).

M is wanting.

N (tab. 5, col. 11) occurs in minuscule form.

O (tab. 5, cols. 1, 14, 15) is oval and links by hook to preceding or following letter.

P and Q are wanting.

R (tab. 5, cols. 12, 13(?)) has stem curved below the line and an unusual short horizontal arm or (?) long arm curving downward.

S (tab. 5, cols. 14, 15) has hooked stem with straight or curved oblique arm or cap.

T (?) (tab. 5, col. 12, etc.) links at base with preceding letter.

U (tab. 5, col. 17) is a simple-curve letter, its sides slightly hooked left.

X, Y, and Z are wanting.

The dating (frg. b, line 1) is perhaps [*Theodosio et Rum*]-*orido v. c. cos.*, i.e. 403 A.D.—unless the *r* and short *i* (tab. 5, *r*, col. 12; *i*, col. 16) could be read *n* (cp. tab. 2, cols. 14, 15), in which case we might read [*Nepotiano et Fac*]*undo v. c. cos.*, i.e. 336 A.D.

The forms of *a*, *d*, *l* argue for an earlier date; those of *b*, *d* with folded stem, *n*, *t*, for fourth or fifth century.

77. Vienna, Hofbibliothek, Sammlung Rainer.

Fragment of two lines. Bilingual, Greek and (l. 1) Latin. 8.2 x 25 cm. Published: Wessely, *Schrifttaf.*, no. 26.

The writing is in a rough, but rapid cursive hand, with dismembered letters linked to neighboring letters:<sup>a</sup> *a* with *n*; *e* with *m*, *o*, *r*(?); *f* with *i*, *l*; *h* with *e*; *l* with *u*; *o* with *f*, *r*; *r* with *u*; *s* with *i*, *t*, *u*(?); *t* with *h*.

Abbreviations: *Fl(avius)*, *v(ir) c(larissimus)*(?), *perl(egatur)*(?)—marked by a vertical at foot of letter or an oblique cross stroke.

A (tab. 5, cols. 6, 7) is a small minuscule placed above the line, in ligature with following letter.

B and C are wanting.

D (tab. 5, col. 17) has bowed stem with slight finishing hook right.

E (tab. 5, cols. 20, 21) has small lower curve representing base and back, and angle or curve representing cap and arm.

F (tab. 5, cols. 6, 17) has cap and transverse in a curved angle or in a double loop.

G is wanting.

H (tab. 5, cols. 7, 8) has stem folded, or looped with stroke beginning at right of stem; unusual is the link springing from base of curve in ligature with following letter.

I (tab. 5, cols. 1, 5; line *k*, col. 30) is straight; the form tied at top with preceding *s* is new.

K is wanting.

L (tab. 5, cols. 5, 14, 15) has simple, hooked, or double-looped stem.

M (tab. 5, col. 7) is minuscule.

<sup>a</sup> "Bemerkenswerte Angleichung der lateinischen und griechischen Cursive"—Wessely, *l.c.*



N (tab. 5, col. 12) is minuscule.

O (tab. 5, cols. 3, 8) links by tangent or intersecting tangents.

P (tab. 5, col. 13) is apparently a single-stroke letter, with stem crossed by bow line and hooked at base.

Q is wanting.

R (tab. 5, cols. 11, 28(?)) has clubbed stem.

S (tab. 5, cols. 16, 17) has clubbed or looped stem, with cap curve running downward to tie or loop in ligature with following *i*.

T (tab. 5, cols. 11, 12) has curved strokes; in ligature the stem is represented by upward hook at end of preceding letter.

U (tab. 5, cols. 18-20) is a minuscule of varying width.

X, Y, and Z are wanting.

The letter forms are comparable to the latest in the papyri just discussed—later still perhaps the forms of *f* and *s*. In the *Fl. Anthemius Isidorus Theofilus v.(?) c.(?)*, may one recognize the Flavius Anthemius Isidorus, consul in the year 436?

#### 78. Rome, Vatican.

Three letters with directions regarding an estate in Sicily. 140 x 24-26.5 cm. Four pieces joined, which measure, from top to bottom, 13.3 cm., 69.3 cm., 45.2 cm., 12.3 cm. Published: Marini, *Pap. Dipl.*, no. 73 and tab. 2; Maffei, *Dipl.*, pp. 52, 130-137; *Tradutt. Ital.*, p. 174; *Verona Illust.*, col. 331; Mabillon, *Suppl.*, p. 88; *Nouv. Tr.*, 1, p. 247; 3, pp. 409, 626; 5, p. 635; 3, plate 63, I; Marucchi, no. 10; Cod. Anon. Vat. Ottob. 3168, fol. 134; Wessely, no. 29; Monaci, tab. 4.

The writing is a fully developed, rapid, easy and finished cursive. Six different hands are distinguishable. All these, especially the first, third, and fifth, are very similar to one another; the fourth is more labored, has less ligature, and shows certain older forms—e.g. capital *N*. Ligatures: *a* with *a*, *b*, *c*, *d*, *e*, *f*, *g*, *i*, *l*, *m*, *n*, *p*, *q*, *r*, *s*, *t*, *u*, *x*; *b* with *e*; *c* with *i*, *l*, *o*, *t*; *d* with *a*; *e* with *a*, *b*, *c*, *d*, *e*, *f*, *g*, *i*, *l*, *m*, *n*, *o*, *p*, *q*, *r*, *s*, *t*, *u*, *x*; *f* with *a*, *e*, *i*, *l*, *o*, *r*, *u*; *g* with *a*, *e*, *i*, *l*, *n*, *o*, *r*, *u*; *l* with *a*, *e*, *i*, *l*, *n*, *o*, *u*; *o* with *c*, *m*, *n*, *p*, *r*; *r* with *a*, *b*, *d*, *e*, *g*, *i*, *m*, *n*, *o*, *p*, *r*, *s*, *t*, *u*, *z*; *s* with *c*, *e*, *t*, *u*; *t* with *a*, *c*, *d*, *e*, *h*, *i*, *m*, *n*, *o*, *p*, *q*, *r*, *s*, *t*, *u*, *z*.

Abbreviations: *act(ores)*, *Aug(ustus)*, *b(ene) v(alere)*, *cond(uctores)*, *conss(consulibus)*, *d(ominus) n(oster)*, *etia(m)*, *ex h(is)*, *ind(ictione)*, *it(em)*, *iter(um)*, *pat(rimon-*



*ium*), *solid(i)* and *sol(idi)* *n(umero)*, *specl (speculam?)\** *s(upra)* *s(criptus)*, *trib(unus)*, *v(ir)* *c(larissimus)* and *vv cc (viri clarissimi)*, *v(ir)* *i(nlustris)*. Abbreviation marks: overline or oblique cross stroke, sometimes the point, which occurs occasionally elsewhere.

A (tab. 5, cols. 1-3, 6, 15-29) is the minuscule, always open, sometimes slurred to a waved line (col. 22); in ligature its position is in or above the line according to the height of the letters with which it links; when final, it has occasionally a long flourish (cols. 25, 29).

B (tab. 5, cols. 9-12, 23-26) has bow regularly at right, except where in ligature with following letter (col. 12); the stem is hooked or bowed on either side, looped, or, less often, double-looped.

C (tab. 5, cols. 2, 8, 15-18, 24, 28-30; line *b*, cols. 29, 30) is generally, though not always, written with a single stroke except when following another letter in ligature, where the curve is broken near base; ligature with following letter is through cap.

D (tab. 5, cols. 3, 18-22, 24, 28, 29) has stem oblique left, hooked, clubbed, looped, or folded; a preceding letter is joined by hook to the bow, a following letter, by continuation of the bow line across the stem.

E (tab. 5, cols. 3, 5, 9, 10, 12, 17, 21-29; line *f*, cols. 19-28; line *g*, col. 30), standing alone or first in ligature, has its curve unbroken; following another letter, the curve is broken at a point corresponding to the height of the other letter; the cap and arm are distinct, in the uncial letter, or variously combined, in an angle, curve, fold, loop right or left, or even double loop on the stem.

F (tab. 5, cols. 7-10) has regularly folded or looped stem with hook for cap; the cap is occasionally prolonged in a loop to springing point of arm.

G (tab. 5, cols. 3, 5-12, 21-24) has, in some forms, the double-curved tail with separate cap stroke, in others, ligature

\*Our first abbreviation by contraction. Others will be noted in the following fifth-century mss. For the sake of compression, the complete lists of abbreviations and abbreviation marks have been struck out of this dissertation. Cp. article in Transactions and Proceedings of the American Philological Association 44 (1913), pp. 39-42 (reprinted here in *Appendix* 3).

forms, the 3-shaped combination of tail and left half of cap, with right half of cap in a separate stroke.

H (tab. 5, cols. 9-12, 19) is minuscule, with stem easily and regularly looped left or right, double-looped, or folded.

I (tab. 5, cols. 1-3, 5-12, 18-28; line *k*, cols. 21-25), standing alone, is either short or high, straight, hooked, bowed, looped, or folded; it links with preceding letter either by hook, when it generally runs below the line, or in fold, loop, or double loop, running above the line, apparently regardless of the height of the preceding letter.

K is wanting.

L (tab. 5, cols. 16-20, 25-27) has stem hooked, looped, or folded; it is frequently linked with letters on either side; with a following high letter, its form is identical with our modern cursive minuscule.

M (tab. 5, cols. 8-11) is a neatly formed, regular minuscule, with occasional final flourish.

N (tab. 5, cols. 13-17, 22, 23) is minuscule, except in the hand of ll. 57-58 which regularly writes the rough capital letter.

O (tab. 5, cols. 1-3, 8, 9, 13-23; line *n*, cols. 29, 30), standing alone, is oval; the frequent ligatures with adjoining letters are by hooks, tangents, or, frequently, intersecting tangents.

P (tab. 5, cols. 6, 9, 10, 14-20, 28-30) has simple stem, running below the line; it is linked with preceding letter at top of bow, with stem either in separate stroke or tied with bow. /

Q (tab. 5, cols. 7-14, 21, 22) has bow closed or open at top, hooked and flattened in ligature with preceding letter, and tail oblique left, hooked right.

R (tab. 5, cols. 14-19, 22-24) has stem clubbed, folded, or tied and joining the arm in a sharp angle or tie; in ligature the direction of arm stroke corresponds to the height of following letter.

S (tab. 5, cols. 4, 5, 9, 18-24, 29) has stem doubled in fold, clubbing, tie, or small loop; it links with preceding letter through the first half of stem, with following, through downward curving cap.

T (tab. 5, cols. 1-3, 11-19, 21, 25, 27-29; line *s*, col. 30; line *r*, col. 30; line *q*, cols. 28-30) generally has widely curved strokes. Ligature forms are various: with preceding letter, through top of stem (above or below cap) or base of stem,

according to the position of the final stroke of the other letter; in the latter case, the stem is often a mere lengthening of the final stroke of the preceding letter and so sometimes in a horizontal position; with following letter, through cap which bends either downward or upward.

U (tab. 5, cols. 2, 18-26; line *x*, cols. 29, 30), written in the line, is regularly minuscule; the simple-curve letter in horizontal position above the line is occasional.

X (tab. 5, cols. 3, 5) has more or less elaborate curves and hooks.

Y (tab. 5, cols. 2, 3) is a single-stroke letter, with arms sometimes joined by tie.

Z (tab. 5, cols. 1, 2) has curved cap and base; ligature with preceding letter is at left of cap.

Two consular dates occur: (l. 57) *ind. XII cons. Maximi iter. et Pateri vv. cc.*, i.e. 443 A.D. and (l. 67) *ind. XIII cons. d. n. Theodosi Aug. XVIII et Albini v. c.*, i.e. 444 A.D.

79. (a) Naples, Biblioteca Nazionale.

Document of Odoacer, making assignment of the income of certain estates. 28 x 42.5-43 cm. Five jointures. The six different pieces measure respectively (left to right): 29 cm., 25 cm., 15 cm., 24 cm., 25 cm., 26 cm. Published: Marini, no. 82 and tab. 6. Cp. *Notizie sulle Biblioteche governative d'Italia*, p. 81; Massmann, *Goth. Urk.*

(b) Vienna, Hofbibliothek.

Part of the same document as (a). "Il papiro è in più luoghi guasto . . . ha 8 palmi ed un terzo [c. 1.83 m.] di lunghezza —" Marini. Published: Marini, no. 83 and tab. 6; Maffei, *Dipl.*, pp. 138-143; *Verona Illust.*, part I, p. 331; *Novv. Tr.*, 5, p. 640, 1; Spangenberg, 2, pp. 247-253 (with facs.).

The writing is in a large flowing cursive hand with continual ligatures: *a* with *b, c, d, e, f, g, h, l, m, n, o, r, s, t, u*; *b* with *e, i, l, s, t, u*; *c* with *a, e, i, o, t, u*; *d* with *i, o, u*; *e* with *a, c, d, e, f, g, i, l, m, n, o, p, q, r, s, t, x*; *f* with *e, f, i, r, u*; *g* with *a, e, i, n, o, r*; *l* with *e, i, o, t, u*; *o* with *f, m, n, r, s, t*; *r* with *a, c, d, e, g, i, m, o, p, r, t*; *s* with *a, e, t*; *t* with *a, c, d, e, g, h, i, l, m, o, p, r, s, u*; *x* with *c*.

Abbreviation by contraction: *Xprm* (*decem primus*).

A (tab. 5, cols. 1-6, 16-20, 30) is always minuscule, often high in the line; the bow sometimes contracts at top.



B (tab. 5, cols. 16-21, 27) has stem variously looped, double-looped, or folded; the bow at left occurs in the frequent ligatures with following letter.

C (tab. 5, cols. 2, 8, 14, 18-22, 24), standing alone or first in ligature, is a single-stroke letter; other forms have curve broken near base; ligature with following letter is through either base or cap.

D (tab. 5, cols. 3, 9, 17, 20, 23-26, 29-31) has stem regularly doubled in loop, double loop, or fold; the stem rarely links at base with following letter, in a form easily confused with the ligature form of *b*.

E (tab. 5, cols. 5, 7, 9, 10, 12, 17, 23-30; line *f*, cols. 25-30; line *g*, cols. 27-30) has the various cursive uncial and minuscule forms with cap and arm generally joined in curve, angle, tie, loop right or left, or fold.

F (tab. 5, cols. 7, 11-13, 18) has, variously, simple, looped, or folded stem, with arm sometimes in separate stroke, sometimes joined with cap by loop in a single-stroke letter.

G (tab. 5, cols. 3, 13-18, 24) has only occasionally the form with double-curved tail and separate cap stroke; regular is the 3-shaped form with half cap linking to a following letter.

H (tab. 5, cols. 10, 12-17) has its stem regularly looped, double-looped, or folded.

I (tab. 5, cols. 1, 4-13, 16, 18, 19, 21-30; line *k*, cols. 16-21, 28) has the variously curved, hooked, bowed, looped, double-looped, or folded stem; the tendency toward looping is marked even in the shorter forms.

K (tab. 5, col. 6) shows here its first single-stroke form; the upper arm springing from base and looping back to its middle to the springing point of the lower arm.

L (tab. 5, cols. 8, 10, 15-23, 28-30) has the various forms with elaborate stem, sometimes running below the line; the base curves upward and is only occasionally abbreviated to a link with following letter.

M (tab. 5, cols. 2, 3, 12-16) is minuscule; the first stem hooks or folds back in ligature with preceding letter.

N (tab. 5, cols. 1, etc., 8, 9, 18, 19, 24) is minuscule, sometimes with prolonged second stem.

O (tab. 5, cols. 1-3, 8, 18-26; line *n*, cols. 25-30), open or closed, joins in ligature by hook at left or by tangent from either side.

P (tab. 5, cols. 9, 19-25), standing alone, has a new form,



with clubbed, tied, or looped stem; ligature is through top of bow or hook at left of looped stem.

Q (tab. 5, cols. 8, 9, 12-19, 22) has the bow generally closed, unless hooked back at top to link with preceding letter.

R (tab. 5, cols. 1, 2, 7, 11, 15-26) always has doubled stem, frequently with ties at base and cap.

S (tab. 5, cols. 9, 18-21, 22-29) generally has doubled stem, sometimes with tie; hook at left of stem and downward curve of cap link with preceding and following letters.

T (tab. 5, cols. 3, 7, 12, 15, 18-29; line *q*, cols. 24-27, 30) has the various ligature forms noted under no. 78; here, for the first time with any regularity, the left side of cap curves downward and inward toward stem, sometimes meeting it either at base or, in a single-stroke letter, at top (line *t* col. 25; line *q*, col. 24); similarly, where, in ligature, the stem has practically been lost (l. *q*, col. 26), the cap stroke sometimes springs directly from the end of the link with preceding letter. Line *q*, col. 25 has both cap and top of stem linking with preceding *t*.

U (tab. 5, cols. 2, 18-20, 22, 23, 26-28; line *x*, cols. 27-30) is minuscule with open bow and short tail; in one form the bow is nearly closed as occasionally in *a*; the simple curve above the line is not infrequent.

X (tab. 5, cols. 5-7) has more or less elaborate curves.

Y (tab. 5, col. 4) has stem replaced by the lengthened, closely convergent sides of the angle.

Z is wanting.

The date is (col. 2, ll. 5-6): *quintodecimo kal. Aprilium Probino v. c. consule*, i.e. March 18, 489 A.D.

#### 80. Location?<sup>75</sup>

Deed of gift. Published: Marini, no. 84 and tabs. 7 and 8; Mabillon, *Suppl.*, p. 89, no. 2; *Nouv. Tr.*, 5, p. 636; Maffei, *Dipl.*, p. 53; Spangenberg, 2, pp. 245-247 (with facs.).

Ligatures: *a* with *e, g, m, n, r, t, u*; *b* with *e, i*; *c* with *a, c, o*; *e* with *a, c, d, e, i, n, o, r, s, t, x*; *f* with *l*; *g* with *d, e, n*; *l* with *a, e, i*; *o* with *i, l, n, p*; *r* with *a, b, e, i, o, u*; *s* with *c(?)*, *g, o, p, t*; *t* with *a, e, h, i, o, p, r, u*; *u* with *i*.

Abbreviations by contraction: *scae*(*sanctae*), *scl*(*scholaris* or *sacrarium largitionum*).

<sup>75</sup> "Bologna. Museo dell' Istituto"—Marini. Studied in Marini's facsimile.

A (tab. 5, cols. 1, etc., 21) has sometimes a two-stroke minuscule suggestive of the later double-*c* form.

B (tab. 5, col. 22, etc.) has bow at right and folded stem, in ligature with following letter.

C (tab. 5, cols. 8, 18, 20, 25-27) has its curve sometimes whole, oftener broken, once peculiarly when standing alone (col. 25); one form, linked to preceding letter at top of back, lacks cap stroke (col. 27).

D (tab. 5, cols. 3, 6, 9, 26, 27) has, variously, simple curved or hooked stem with separate bow stroke and the single-stroke letter with looped or double-looped stem.

E (tab. 5, cols. 10, 27, 29) has back of curve regularly broken near base; the cap is simple, or it is folded or looped back in combination with arm.

F (tab. 5, cols. 14-16) has simple or looped stem with separate arm stroke; in one peculiar form (col. 16), the stem seems to loop left to springing point of arm, while the cap is omitted.

G (tab. 5, cols. 19, 20) shows double-curved tail, here hooked right, with separate cap, and the 3-shaped form, here intersected by cap.

H (tab. 5, col. 18) has double-looped stem.

I (tab. 5, cols. 7, 9, 11; line *k*, cols. 26-29) has stem hooked at bottom and hooked, bowed, tied, looped left, or double-looped at top.

K is wanting.

L (tab. 5, col. 24) has double-looped stem.

M (tab. 5, col. 16) is a broad minuscule with final hook.

N (tab. 5, col. 21) is a two-stroke minuscule.

O (tab. 5, cols. 17, 29, 30) is an open oval or has its sides intersecting at top and finished with small hooks.

P (tab. 5, cols. 26, 27) has stem running below the line, either simple or looped.

Q (tab. 5, col. 20) has bow somewhat open at top; the tail is oblique left and hooked right.

R (tab. 5, cols. 25, 27) has clubbed or tied stem with rounding or flat arm.

S (tab. 5 col 18, etc.) has clubbed or folded stem and curving cap.

T (tab. 5, cols. 5, 19, etc., 30) has cap more or less curved; the stem is occasionally slurred in the horizontal link with preceding letter.

U (tab. 5, cols. 1, 3, etc., 29, 30) shows, variously, the simple curve and the single-stroke or two-stroke minuscule letter.

X, Y and Z are wanting.

The date is (col. 2, l. 5): *sub die IIII non. Ian. p.c. Flavi Fausti Iunioris v. c. cons.*, i.e. January 2, 491 A.D.

81. Paris, Louvre, Papyrus 4 bis.

Greco-Latin vocabulary.<sup>76</sup> Published: Letronne, *Notices et Extraits* 18, 2, pp. 125-128 (with facsimile). Cp. Du Cange, *Corp. Glossar.*; Bücheler, in *Neue Jahrb. f. Phil. u. Paed.* 111 (1875), 1, pp. 309-313; Wessely, no. 20 (with facsimile).

Both Greek and Latin are written with Latin letters. The hand is a rough cursive; a large number of the letters stand alone and ligatures are rarely of more than two letters: *a* with *f*, *i*, *l*, *p*, *r*, *s*, *u*; *c* with *a*, *i*, *l*, *o*; *e* with *l*, *m*, *n*, *r*, *s*, *t*; *f* with *o*; *g* with *o*, *u*; *i* with *d*; *l* with *o*; *o* with *p*, *r*; *p* with *a*; *r* with *a*, *i*; *s* with *i*; *t* with *a*, *r*.

The point between words is occasional.

A shows slight variations of the open minuscule letter; the uncial letter and a two-stroke minuscule also occur (cp. tab. 4, cols. 5, 7, 10, 11, etc.; tab. 5, cols. 1-3, 5, 10, 11, etc.).

B has bow at right and stem curved, hooked, tied, bowed, or clubbed (cp. tab. 4, cols. 4-10; tab. 5, cols. 2-4, 7).

C has broken back except when standing first in ligature; ligature with following letter is through either cap or base (cp. tab. 4, cols. 1, 8-10, 13, 17-20; tab. 5, cols. 2-8, 14, 18, 21, 22).

D is minuscule with stem simple, clubbed, looped, or double-looped (cp. tab. 4, cols. 2, 5, 8-11; tab. 5, cols. 6, 19, 25).

E has the broken-back uncial and, oftenest, a new single-stroke form in which the right side of lower curve is prolonged upward and looped to represent cap and arm (cp. tab. 4, col. 1, etc.; tab. 5, cols. 6, 17, etc.; esp. tab. 6, col. 35).<sup>1</sup>

F has simple curved stem, generally hooked right and bowed, looped, or hooked in combination with arm stroke (cp. tab. 4, col. 6; tab. 5, col. 18).

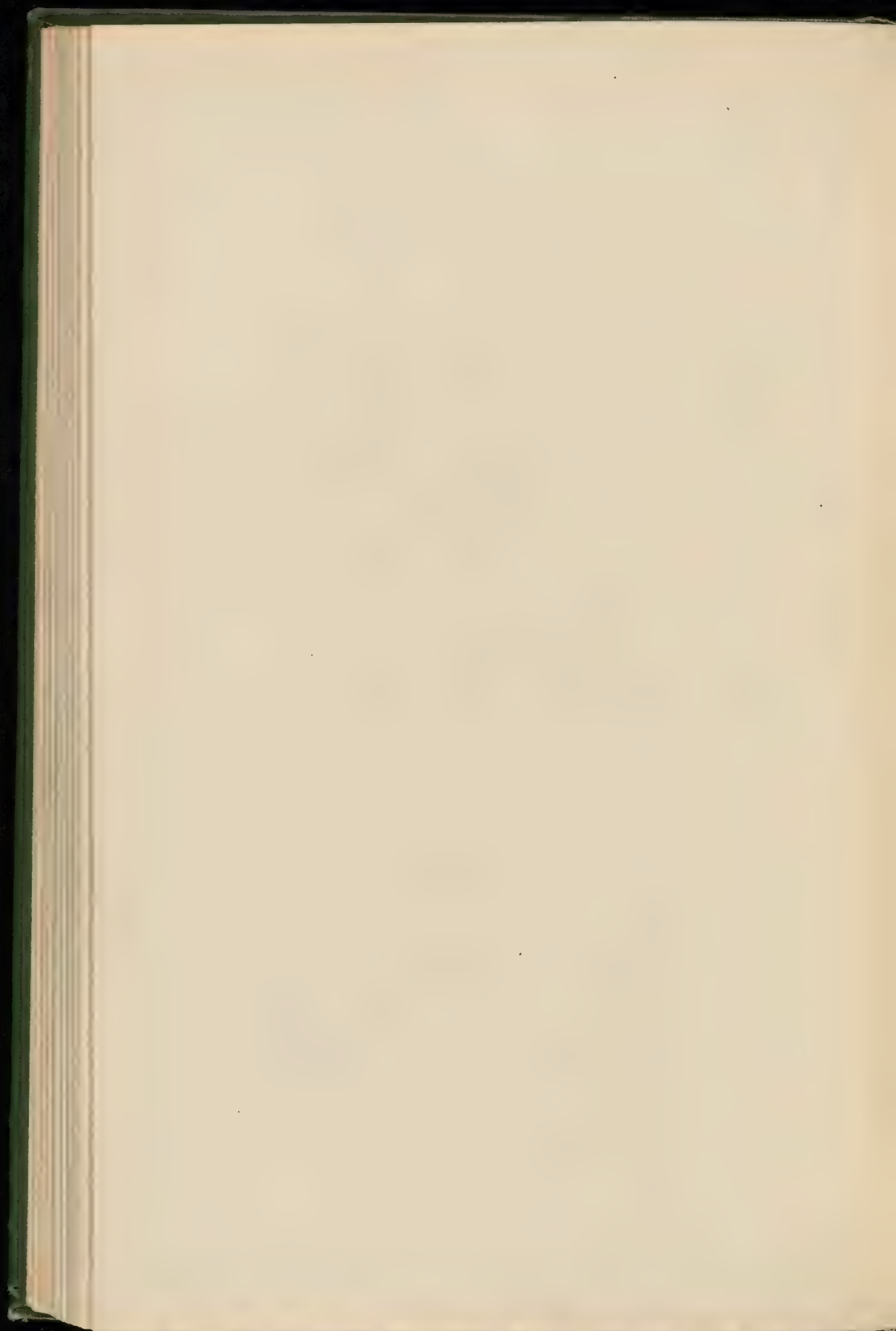
G has tail double-curved or consisting of oblique and curve, with separate cap stroke (cp. tab. 4, cols. 5, 10; tab. 5, cols. 3, 13).

<sup>76</sup> Description by Letronne. Studied in Wessely's facsimile.

<sup>1</sup> Cp. similar form in second century Greek cursive, Thompson, *Introd.*, p. 192.







H is wanting.

I is oftenest short, and curved or hooked left at top and right at base; in ligature with preceding letter it is either tied or double-looped; in the rare ligatures with following letter the base hooks upward (cp. tab. 4, cols. 2, 3, 7, 8, 17, 27, 30; tab. 5, cols. 2-4, 6, 8, 9, 17, 19).

K is wanting.

L has stem straight, hooked, or, in ligature after another letter, looped; the base curves either upward or downward, but generally has a peculiar downward finishing hook (cp. tab. 4, cols. 2, 3, etc.; tab. 5, cols. 6, 13).

M is a regular minuscule.

N is minuscule.

O is roughly oval, occasionally finished in tangent or, peculiarly, in a tie; ligature is through tangent (cp. tab. 4, cols. 1, 2, 11, 12, 14, 17, 22, 26; tab. 5, cols. 1-3, 6).

P has simple stem, straight or hooked, sometimes in a single stroke with bow which is closed, or open at left as in ligature with preceding letter (cp. tab. 4, cols. 1, 6, 17; tab. 5, cols. 1, 3, 13, 19, 20).

Q has bow open at top (cp. tab. 4, col. 7; tab. 5, col. 15).

R shows both simple and doubled-stem forms (cp. tab. 4, cols. 1-6, 8, 9, etc.; tab. 5, cols. 1-3, 6, 10, 11).

S has sometimes simple, generally clubbed, looped, or tied stem (cp. tab. 4, cols. 4, 6, 9, 12, 21, 22; tab. 5, cols. 4, 5, 8, 9).

T has more or less elaborate curves; ligature is through cap (cp. tab. 4, cols. 3, 10, 11, 18; tab. 5, cols. 1-3, 13-15).

U shows both simple-curve, in the line or above the line, and minuscule forms (cp. tab. 4, cols. 1, 7, 15, 20, 28; tab. 5, cols. 2, 8, 9).

X has rather elaborate curved strokes (cp. tab. 4, col. 3; tab. 5, cols. 1, 6).

Y and Z are wanting.

The letter forms are in general comparable to forms of tabs. 4-5; the simpler stems of the high letters to the earlier (4th cent.), the broken-back *c*, the peculiar *e* and *o*, and the single stroke *f* to the later (5th cent.).

81a. Marburg, Collectio Iandana, P. 161. Plate opp. p. 150.

Inscriptio epistulae. 19.3 x 10.4 cm.<sup>77</sup> Published: Spiess,

<sup>77</sup> Description by Spiess. Studied in facsimile. References to tables are omitted as these pages were written after the ms. of the dissertation was already in the printers' hands.

*Papyri Iandanae*, fasc. 4, no. 68 b (with facs.).

Ligatures: *a* with *l*, *r*; *c* with *o*; *d* with *a*; *e* with *o*; *l* with *i*; *o* with *n*, *r*; *r* with *i* (or abbreviation mark?), *n*; *u* with *s*; *y* with *m*.

Abbreviation mark: downward finial.

A is an open minuscule, written high in the line in ligature with following letter.

B is wanting.

C has curve broken at top or in middle of back.

D has clubbed stem and links through prolongation of bow line.

E is broken at middle of back; the upper curve is clubbed and joined with arm.

F has simple, double-curved stem and cap, with separate, curved arm stroke.

G and H are wanting.

I, standing alone, is straight or slightly curved; in ligature, goes below the line, with final curve or hook left.

K is wanting.

L has stem looped or double-looped; ligature with following letter is through upward curving base.

M and N are regular minuscules.

O is oval; ligature is through intersecting tangents.

P and Q are wanting.

R has folded or, in a two-stroke form, simple stem; ligature with preceding letter is by hook or tie.

S has looped or clubbed stem, with high curving arm.

T is wanting.

U, only in ligature with following letter, is a simple curve, written high in the line.

X is wanting.

Y is a single-stroke letter with clubbed stem.

Z is wanting.

The letters are those common in the fifth and sixth centuries; the comparatively simple forms of *e*, *f*, *i*, *o*, *r*, may indicate the fifth.

81b. Oxford, Queen's College.

Writing exercise. 7 x 9 cm. Writing across the fibres. The hand is a clear cursive; *u* is sometimes written as a curve linked to the next letter. Fourth or fifth century (?).<sup>78</sup> Published: Grenfell and Hunt, *Oxyrh. Pap.*, 10, no. 1314.

<sup>78</sup> Description by Grenfell and Hunt.

81c. Berlin, Kgl. Mus., Aeg. Abth., Inv. Nr. 2745.

"Prozessprotokoll etwa aus dem V. Jahrh. n. Chr., in dem die Reden griechisch wiedergegeben sind, der verbindende Text aber lateinisch ist."<sup>79</sup> Published: Mitteis, *Einladung der juristischen Fakultät der Universität Leipzig zur Feier des Andenkens an Dr. Lauhn*. Cp. Wilcken, A.P. 6, pp. 298-299.

82. (a) Leyden, Rijksmuseum van Oudheden. (b) Paris, Louvre. (c) Paris, Bibliothèque Nationale. Plate opp. p. 150.

Provenance Philae (frg. a) or Elephantine (frg. c)?

Fragments of two imperial rescripts to the *praefectus Augustalis* of Egypt. 3 ft. 4 in. x 12 in. Columns 14 in. wide with space of 2 to 3 in. between.<sup>80</sup> Published: Champollion-Figeac, III, p. 14 and plate, feuille XIV; Reuven, *Lettre* 3, pp. 34-35; Saint Martin, in *Journal des Savants* Sept. 1822, p. 55; de Wailly, in *Mem. de l'Acad.* 14 (1842), part 1, pp. 399-422 (pl. opp. p. 408); Massmann, *Lib. Aur.*, p. 147 (with facs.); Silvestre, pl. 98; Arndt, 1, 67 (with facs.); Thompson, *Handbook*, p. 212 (with facs.); *Id.*, *Introd.*, p. 327 (facs. no. 111); *Pal. Soc.*, 2, 30 (with facs. and alphabet in facs.); Wessely, no. 22 (facs.); Reusens, p. 23 (facs.); Steffens, pl. 18, 2 (2d ed., no. 16) (facs.); Mommsen and Jaffé, in *Jahrb. des gem. deutsch. Rechts* 6, p. 398; Faass, in *Arch. f. Urk-forsch.* 1, p. 194; Williams, 86; Brandi, in *A.P.* 1, p. 17.

The writing is in a large artificial hand,\* with letters in ligature almost from one end of the line to the other: *a* with

<sup>79</sup> Wilcken, A.P. 6, p. 298. The original publication has not yet come to hand.

<sup>80</sup> Description in *Pal. Soc.* Studied in facsimile. The alphabet here given is reproduced from *Pal. Soc.*, 2, 30.

\*On the difficulty with which the reading of these fragments was attended, cp. Champollion-Figeac, III, p. 14—"Fragment antique—Nous appelons humblement l'attention des paléographes sur ce fragment en très hauts caractères; il a été apporté d'Égypte au commencement de ce siècle. Plusieurs autres fragments semblables se trouvent dans diverses mains; celui-ci appartient à la Bibliothèque royale de Paris, le musée du Louvre en possède un autre de même grandeur, et évidemment de la même écriture. Nous ne pouvons dire aujourd'hui si le texte qui s'y trouve écrit est du grec ou bien du latin; nous attendrons cette première d'une main généreuse, plus habile, plus exercée, ou plus heureuse que la nôtre: nous y avons pris notre part de torture: un Saumaïse nouveau nous en dedonnagera sans aucun doute." Massmann was the first to succeed in reading the Leyden fragments, after which the whole was read and published together by de Wailly.



*b, c, d, e, f, h, l, m, n, p, q, r, s, t, u; b* with *a, c, e, i, r, u; c* with *u; e* with *a, b, c, d, f, g, i, l, m, n, o, p, r, s, t, u, x; f* with *a, e, f, o, r, u; m* with *a, c, d, e, f, i, l, o, p, q, s, u; n* with *a, c, d, e, f, g, i, o, p, s, t, u; o* with *c, d, f, n, r, s, u; p* with *a, e, i, o, p, r, s, t; r* with *a, c, e, h, i, m, n, o, p, r, s, t, u; t* with *a, e, h, i, l, o, r, s, u; u* with *a, b, c, d, e, i, l, m, n, o, p, r, s, t, u, x; x* with *i, p, t.*

A is a development of the capital letter, minus transverse, with curved and flourished strokes (cp. tabs. 1-3; tabs. 4, cols. 1, 2; tab. 5, col. 13).

B is high and clubbed, looped, or double-looped, with bow at left; the link with following letter is high in the line (cp. tab. 4, col. 19; tab. 5, cols. 19, 20).

C has the two-stroke forms similar to forms noticed from the fourth to the sixth centuries; the lower curve is, however, rounder than these others and the looping of the upper curve is unique (cp. tab. 4, col. 12, etc.; tab. 5, col. 14, etc.; tab. 6, col. 28, etc.).

D is perhaps of uncial origin but with upper stroke straightened, then looped or folded; unusual is the final hook (cp. tab. 4, cols. 1, 14, etc.; tab. 5, cols. 1, 3; tab. 6, col. 29).

E is unique, unless it is to be compared to the likewise unusual forms of tab. 2, col. 24; tab. 3, col. 25; no. 28a.<sup>81</sup>

F, very similar to our modern cursive minuscule, except that the stroke begins with the lower part of the letter and the transverse is sometimes written with separate stroke, has no parallel in other Roman cursive mss.

G has large upper curve, minus cap, with tail finishing in wide curve to the right (cp. tab. 4, col. 3).

H, a development from the minuscule letter, has first stem looped or double-looped, transverse and second, diminished stem slurred in a curved line which finishes, uniquely, below the line in a large hook (cp. tab. 5, col. 7).

I is generally short; regularly hooked, folded, or tied top left and hooked bottom right; sometimes long and bowed, looped, or double-looped (cp. tab. 4, cols. 2, 3, 12; tab. 5, cols. 1-3, 9, 21).

K is wanting.

L has looped or double-looped stem, and short upward curving base (cp. tab. 4, cols. 2, 16; tab. 5, cols. 3, 15).

<sup>81</sup>Cp. Thompson, *Introd.*, l.c.

M is the Greek letter with long first stem, somewhat similar to tab. 2, cols. 7, 10, 15.<sup>82</sup>

N has transverse intersecting middle, or springing from middle of first stem in a single stroke with the diminished second stem (cp. tab. 2, cols. 10, 12; tab. 3, cols. 10, 30; and Greek letter in Thompson, *l.c.*).

O is oval, comparatively small and placed high in the line; with prolonged intersecting sides (cp. tab. 3, cols. 1, 21; tab. 4, cols. 1, 18; tab. 5, cols. 1, 8).

P has the form with open slurred bow noticed in the older papyri, graffiti, and waxes (cp. tab. 2, col. 24; tab. 3, col. 15).

Q has bow open like a hook at top, and tail curving left (cp. tab. 4, cols. 6, 7; tab. 5, cols. 1-5).

R has sweeping double-curved stem and arm strokes (cp. tab. 2, col. 4; tab. 3, cols. 15, 28; tab. 4, col. 21).

S with bow or loop right at top and bottom is unparalleled, unless in modern cursive.

T has hooked stem and slightly waved cap stroke (cp. *passim* tabs. 1-6; ligature with preceding letter is through top of stem, either above or below cap).

U is the simple curve or angle, sometimes high in the line (cp. tab. 4, cols. 14, 20; tab. 5, cols. 1, 9).

X has one crossarm horizontal, the other vertical, sometimes tied at top (cp. tab. 4, cols. 1, 6).

Y and Z are wanting.

The alphabet is a curious medley of letter forms; *a, g, m, n, p, r, t* all find their analogies in the letters of the first to third centuries, while the letters with looped and double-looped stems cannot be earlier than the fourth century, *b* and *q* seem nearer the fifth century, *c* and *f* (cp. no. 121) even later, and the forms of *e* and *s* are unique, although the form of *e* may be compared to the wax-tablet letter and the second-third-century letter lacking base. A date later than the fifth century is made unlikely by the correct spelling and language usage; for a dating in the fifth century "passt sprachlich und sachlich alles. . ." <sup>83</sup>

<sup>82</sup> Cp. fifth and sixth century Greek cursives in Thompson, *Introd.*, pp. 193, 194.

<sup>83</sup> Mommsen and Jaffé, *l.c.*

83. Vienna; Hofbibliothek, Sammlung Rainer, Inv. Nr. 7009.  
Fragment of a contract. 5th to 6th century. 18.5 x 19.5  
cm.<sup>84</sup>

83a. Oxford, Queen's College.

Latin alphabet in capitals and minuscules, with Greek  
equivalents written over some of the letters. On the verso  
*asii intenairosa* in large rude cursive. 12.3 x 14.5 cm. Writing  
(on the recto) across the fibres. Fifth or sixth century.<sup>85</sup>  
Published: Grenfell and Hunt, *Oxyrh. Pap.*, 10, no. 1315.

84. Vienna, Hofbibliothek.

Deed of sale. 25 x 67 cm. Three jointures. Published:  
Marini, no. 113; (Lambeck, *Commentari, L. VIII*)<sup>1</sup>; Mabillon,  
pp. 458-60 and tab. 58; Maffei, *Dipl.*, p. 54; Spangenberg, 2,  
p. 181; (Kollar, *Anecd. Vindob.*, 1, p. 1027); (Zannetti, *Sopra  
Pap.* LXXXVI, p. 4).

In a hasty glance at the ms. the following ligatures were  
noted: *a* with *b, c, e, g, i, n, p, r, s, t, u*; *b* with *a, u*; *c* with  
*a, i, l, o, u*; *d* with *e*; *e* with *c, e, f, l, n, o, r, s,*  
*t, u*; *f* with *i, l*; *g* with *e, r*; *l* with *a, e, i, m, u*; *o* with *b, c,*  
*e, i, l, p, q, r, s, u*; *r* with *a, g, i, o, r, u*; *s* with *c,*  
*o, t*; *t* with *a, d, e, f, h, i, o, r, u*; *u* with *m*.

Abbreviations by contraction: *hhdes, hhbus*, (*heredes*, etc.),  
*q(uo)d(?)*\*, *qq et pp* (*quoque tunc et perpetuo?*), *scae*  
(*sanctae*).

A (tab. 6, cols. 1-7) is the open minuscule, joined freely in  
ligature, with preceding letter by hook, with following, by  
prolonging of tail; it is often high in the line before another  
letter in ligature.

B (tab. 6, cols. 1, 2) has bow at left and stem looped, with  
final hook linking to following letter.

C (tab. 6, cols. 1-7) has sometimes, when standing alone,  
the single-stroke curve, but is generally broken low in the  
back; ligature with preceding letter is through base, with  
following, through either base or cap.

D (tab. 6, cols. 1-5) has generally single-stroke bow and

<sup>84</sup> Description in *Führer durch die Ausstellung*.

<sup>85</sup> Description by Grenfell and Hunt.

<sup>1</sup> References not verified are included in parentheses.

\* So read in *Transactions Am. Phil. Assoc.* 44, p. 40; better interpreted  
as suspension for *qui dicitur*. Similarly *qs*. (Marini, no. 117) is to be  
read not *quos* but *qui supra*.



looped stem; ligature with preceding letter is by hook of bow or loop at top of stem, with following letter by separate short link stroke.

E (tab. 6, cols. 1-7), except when first in a ligature, has broken back, with upper curve variously combined with arm in angle, by fold, or by loop.

F (tab. 6, cols. 1, 2, 5) has stem clubbed or folded, with upward curving cap, sometimes folded back to springing point of arm in a single-stroke form.

G (tab. 6, cols. 1-3) has tail shaped like the figure 3, and, generally, full cap stroke.

H (tab. 6, cols. 1, 2) has simple straight stem, hooked in ligature.

I (tab. 6, cols. 1-7) is short or long above or below the line; straight, hooked left at top and generally right at bottom, or, in ligature, looped.

K is wanting.

L (tab. 6, cols. 1-9) has, regularly, short upward curving base, and stem straight, bowed, looped, double-looped, or folded.

M (tab. 6, cols. 1, 2, etc.) is regularly minuscule.

N (tab. 6, cols. 1-3) is minuscule.

O (tab. 6, cols. 1-10) is generally a small oval, often open in ligature, linked on both sides by hook, tangent, or intersecting tangents.

P (tab. 6, cols. 1-4) has generally folded or looped stem, joining in a single stroke with either upper or lower side of bow; the ligature form has bow open at left and tied at bottom with stem.

Q (tab. 6, cols. 1-3) has bow open at top and tail curved left, sometimes hooked right.

R (tab. 6, cols. 1-4) has folded stem with arm represented by slight downward curve or angle.

S (tab. 6, cols. 1-6) has regularly doubled stem with curve or hook to represent arm; rarely a sharp shoulder like that regular in *r*.

T (tab. 6, cols. 1-5) has stem with large hook, and cap curved or double-curved; ligature is through top of stem or base of slurred stem which is sometimes joined to left end of cap in an oval curve (col. 5).

U (tab. 6, cols. 1-6) shows slight variations of the single-stroke and two-stroke minuscule letters.



X (tab. 6, col. 1) has hooked or double-curved crossarms.

Y and Z do not occur.

The date is (ll. 7-8): *Rufio Petronio Nicomago Cethego v. c. consule sub d. nonarum Februariarum*, i.e. Feb. 5, 504 A.D.

85. (a) Florence, Archivio di Stato. (b) Formerly in Mantua, "Casa i Marchesi Capilupi."<sup>86</sup>

List of documents. (a) 48.5 x 22.5-27.5 cm. 3 pieces joined, measuring: 24 cm., 22.7 cm., 1.8 cm. Writing across the fibres. Published: Marini, nos. 138, 139; Paoli, *Del Papiro*, no. 1; Maffei, *Dipl.*, p. 148, no. 4; Gori-Doni, p. XII.

Three different hands may be distinguished. The writing of the first hand (ll. 1-12) is large, plain, and pretty well preserved. In the rest of the document the ink has faded so as to make the reading rather difficult. In l. 1 there is evidence of an attempt to ink the letters over again. Ligatures: *a* with *a, c, d, e, g, l, n, o, s, t, u*; *c* with *a, c, e, h, l, o, t*; *d* with *e, n*; *e* with *a, c, d, f, g, i, l, m, n, o, p, q, r, s, t, u, x*; *f* with *a, e, i, o*; *g* with *a, o, r, u*; *l* with *a, e, i, l, p, u*; *o* with *c, e, f, i, l, m, n, r*; *r* with *a, e, i, m, o, q, s, t, u*; *s* with *c, e, s, t, u*; *t* with *a, b, e, h, i, o, p, r, t, u*; *u* with *i* (numeral), *s*.

A (tab. 6, cols. 1, 3, 4, 7, 8) is a rather narrow minuscule letter, often written high in the line in ligature, sometimes slurred (col. 7).

B (tab. 6, cols. 3-7) has open or closed bow regularly at right, and stem bowed, looped, or folded. The second hand sometimes writes a letter with square bow.

C (tab. 6, cols. 1, 3-7, 12-15, 17, 18) is broken high or low in back; it links with preceding letter through base, with following, through either base or cap.

D (tab. 6, cols. 5-11) has stem looped or double-looped; the open bow is sometimes square; a separate short stroke links with following letter.

E (tab. 6, cols. 1, 2, 5-14) shows various broken-back forms, with arm sometimes separate, sometimes attached to upper curve in a curve, fold, or bow; occasionally the base instead of cap is bowed back to springing point of arm.

F (tab. 6, cols. 4, 5) has doubled stem, with cap in hook or loop; with arm in separate stroke crossing the stem.

<sup>86</sup> Marini. Present location not known.

G (tab. 6, cols. 4-9) has, generally, full cap stroke and upper part of tail straight, or curved as in the figure 3.

H (tab. 6, cols. 3-6) has stem looped, double-looped, or folded.

I (tab. 6, cols. 1, 3, 6, 8-22) is long or short, straight, hooked or bowed left at top; in ligature curving below the line or running above in loop or double loop, and sometimes with hook right at base.

K does not occur.

L (tab. 6, cols. 1, 6, 8-13) has stem generally bowed, looped, double-looped, or folded; in ligature, the position and length of base depend on the position of initial stroke of following letter.

M (tab. 6, cols. 3-5, etc.) is a broad minuscule.

N (tab. 6, cols. 4-11) shows a variety of forms, varying from capital, with transverse meeting second stem near or at top, to minuscule.

O (tab. 6, cols. 2, 3, 6, 7, 11-13) is oval, open or closed, and links variously by hook, tangent, or intersecting tangents.

P (tab. 6 cols. 4-11), standing alone, has closed bow and curved stem, written with one or two strokes; ligature is through top of either stem or bow, in the latter form generally with tie between stem and bow.

Q (tab. 6, cols. 4-7) has bow open at top, though sometimes hooked right, with tail curving left, hooked right or left.

R (tab. 6, cols. 1-12) has regularly clubbed or folded stem, not infrequently tied or looped, joining arm in curve, angle, or tie.

S (tab. 6, cols. 1, 2, 4, 7-11) has stem regularly clubbed or folded; the abbreviation *cons* has the older two-stroke letter (col. 10).

T (tab. 6, cols. 3-12) has, beside the usual curved cap and stem, occasional forms with cap springing in a horizontal fold from top of stem; ligature is through top of stem, intersecting cap, or base of slurred stem, or, in the combination *tt*, through both top of stem and cap (line *u*, col. 12).

U (tab. 6, cols. 6-11) is generally a single-stroke minuscule, occasionally the simple-curve letter either in the line or horizontally above the line.

X (tab. 6, col. 2) has one crossarm hooked left at top and right at bottom, the second crossarm long and slightly curved.

Y (tab. 6, cols. 1, 2) is a narrow angle with hooked sides.

Z is wanting.

Several consulships are mentioned in the fragment: (l. 4) *p. c. Paulini v. c.*, i.e. 499 A.D.; (l. 7) *Cethego v. c. consule* and (l. 8) *cons. Cethei v. c.*, i.e. 504 A.D.; (l. 13) *Boethio consul.*, i.e. 487 A.D. (or, = *Boethio Iun.*?, i.e. 510 A.D.); (ll. 14, 17) *Boethio Iun. consul.*, i.e. 510 A.D.; (l. 21) *Messala consule*, i.e. 506 A.D.; (l. 24) *Venantio Iun. consule*, i.e. 508 A.D.; (l. 26) *Volusiano consule*, i.e. 503 A.D. Whether the record was carried farther into the sixth century is of course impossible to say, but the latest date given, 510 A.D., serves as an approximate date.

86. Lost.

Lost in the transference of the library of Catherine de Medici to the Bibliothèque Royale.<sup>87</sup> Deed of gift. Date 523 A.D. Published: Marini, no. 85; Maffei, *Dipl.*, no. 5, p. 149; (Brisson, *de Formulis*, vol. 6, c. 150); (Conrad, *Parerga*, vol. 4, p. 482); (Terrasson, *Hist. de la Jurisprud.*, p. 68); (Fleetwood, *Insc.*, p. 520); Delisle, *Cujas Déchiffreur de Papyrus*.

87. Rome, Vatican.

Deed of sale. 25.5 x 325 cm. In three wide columns. Col. 3 begins, ll. 1-5, in a second hand, col. 3, ll. 6-7 are in a third hand, l. 8 in a fourth hand, in the signature of *Pompilius Plautus*—written large—63 cm. long. Beginning opposite l. 7 are seven other signatures. The papyrus consists of 16 different pieces joined together, measuring: 20.3-29 cm. (damaged at left), 22.5 cm., 19-19.5 cm., 23-23.5 cm., 19-19.5 cm., 21-21.5 cm., 21 cm., 22.5 cm., 19 cm., 24-24.5 cm., 19.5-20 cm., 18-18.5 cm., 19 cm., 19.5-20.5 cm., 21.5-23.5 cm., 3.5-5 cm. Blank space between cols. 1 and 2 is 4-5 cm., between cols. 2 and 3, 6-7 cm., at the end of col. 3, 6-7 cm. Below the signature, col. 3, l. 8, a space 13.5 cm. Writing along the fibres. Published: Marini, no. 115 and tab. 14; Maffei, *Dipl.*, p. 53, pp. 155-160; Gori-Doni, no. 2, p. XXIII, p. 469; Marucchi, no. 8; (Mitarelli, *Cose Faentine*, p. 238); *Nouv. Tr.*, 5, p. 645, etc.; Grimaldi, in *Cod. Vat.* 6064, fol. 2<sup>v</sup>-8<sup>r</sup> (9<sup>v</sup>-15<sup>r</sup>); *Anon. Cod. Ottobon.* 3168, fol. 134; Spangenberg, 2, pp. 187-192; (Zirardini, p. 28).

Ligatures: *a* with *b, c, d, e, f, g, l, m, n, o, p, q, r, s, t, u, x*; *c* with *e, q, t*; *d* with *i*; *e* with *a, b, c, d, e, f, g, h*,

<sup>87</sup> Cp. Delisle, *l.c.*



*i, l, m, n, o, p, q, r, s, t, u, x; f* with *a, e, f, i, l, o, r, u*; *g* with *a, e, i, n, o, r, u*; *l* with *a, c, e, i, l, o, q, t, u, y*; *o* with *c, e, f, g, l, m, n*; *q, r, s, t, u*; *r* with *a, c, d, e, g, h, i, m, o, q, r, s, t, u*; *s* with *c, q, t*; *t* with *a, c, d, e, f, g, i, m, n, o, p, q, r, s, t, u*; *x* with *a, c, f, h, i, m, s, t*.

Abbreviations by contraction: *hd* (*hodie* or *hodierna*), *ql* (*quinquennalis*). Abbreviation marks: overline, oblique cross stroke, downward finial.

A (tab. 6, cols. 1-6, 9-12, 16) shows regular minuscule forms with a few peculiarities such as the occasional long finishing stroke and, in ligature, the occasional horizontal position above the line.

B (tab. 6, cols. 8-11) has bow at right and stem clubbed, finely looped, or double-looped.

C (tab. 6, cols. 1, 3-7, 15, 19-23), except where standing alone or first in ligature, has back broken, generally near base.

D (tab. 6, cols. 3, 5, 9, 12-15, 20), made with one or two strokes, has stem straight or with narrow bow, loop, or double loop.

E (tab. 6, cols. 1-3, 5-8, 10-12, 18-22) has, except where in uncial form, upper part of curve looped or folded to springing point of arm; in ligature with preceding letter, the back is broken, generally near base.

F (tab. 6, cols. 2, 3, 6, 7) has clubbed, folded, or looped stem, with arm either separate or joined to cap by fold.

G (tab. 6, cols. 3, 8, 10-13) has tail consisting either of upper oblique and lower curve, sometimes slurred in a double curve, or of upper and lower curves as in the figure 3; the cap is either full or half.

H (tab. 6, cols. 1, 7-10) has stem straight, clubbed, looped, or double-looped.

I (tab. 6, cols. 1-3, 5-8, 11-20, 23-30, 32-36, 38, 39, 44), standing alone, is long or short; straight, hooked, clubbed, or bowed left at top; and hooked, generally right, at bottom; in ligature it has simple stem curved left below the line, or high stem bowed, looped, or double-looped.

K is wanting.

L (tab. 6, cols. 7, 14-19) has stem straight, hooked, clubbed, bowed, looped, or, less often, double-looped.

M (tab. 6, cols. 4, 6-8) is minuscule, with last stem generally curving slightly inward.



N (tab. 6, cols. 2, 11-14) has slight final curve left, except one form (col. 14) with long horizontal flourish.

O (tab. 6, cols. 1-3, 5-8, 10, 12, 14-16), standing alone, is small and circular; in ligature, open and hooked at either side or closed and linked by tangent or intersecting tangent; in a new form the tangent at left is hooked to link with preceding letter above its intersection with the prolonged right side.

P (tab. 6, cols. 3-6, 10-14) appears as a single-stroke or two-stroke letter with simple stem, or as a single-stroke letter with folded or looped stem; ligature is through top of either stem or bow.

Q (tab. 6, cols. 7-13) has bow closed or open, sometimes slurred in a slight curve; the tail is oblique left, hooked right or left.

R (tab. 6, cols. 2-4, 6-11, 13, 14) has clubbed, folded, or looped stem, with arm attached in curve or angle.

S (tab. 6, cols. 1-5, 8, 9, 12-15) has doubled stem, and arm curved or hooked downward.

T (tab. 6, cols. 2-6, 9, 13-15) has the various forms noted in the preceding mss.; the link with preceding letter at top of stem is either above or below the cap.

U (tab. 6, cols. 1, 2, 4-6, 10, 12-15) is regularly minuscule.

X (tab. 6, cols. 3-7, 19) has double-curved left arm, and long, curved right arm; it is unusually frequent in ligature with both preceding and following letters.

Y (tab. 6, col. 3) is a narrow angle with curved sides; ligature with preceding letter is by hook at top of first member.

Z does not occur.

The date is (col. 2, l. 11): *sub d. nonar. Ianuariar. ind. tertia sexies p. c. Paulini Iunioris v. c.*, i.e. Jan. 5, 540 A.D.

88. Rome, Vatican.

Document of sale. 59 x 28 cm. Writing across the fibres. Published: Marini, no. 116 and tab. 15; Gori-Doni, Pref., p. XXIV, and p. 478, no. 4; Grimaldi, in *Cod. Vat. 6064*, fol. 12<sup>r</sup> (19<sup>r</sup>)-13<sup>v</sup> (20<sup>v</sup>); *Nouv. Tr.*, 3, p. 629 and tab. 63, I, iii, and tab. 64, III, i-ii; (Mitarelli, p. 388); (Maffei, *Dipl.*, p. 157); Marucchi, no. 19.

The hands of the scribe and five witnesses are very much alike. Ligatures: *a* with *b, c, d, e, f, l, m, p, r, s, t, u, x*; *b* with *e*; *c* with *c, e, i, o, t*; *d* with *i*; *e* with *a, c, d, e, f, g, h, i, l, m, n, o, p, r, s, t, u, x*; *f* with *a, e, i, u*; *g* with *a, e,*

*i, n, r; k with a; l with a, e, i, o; o with c, e, g, l, m, n, q, r, s, u; r with a, e, i, m, o, r, s, t, u; s with c, e, s, t; t with a, c, e, i, l, o, q, r, s, u; u with e.*

Abbreviations by contraction: *pp(perpetuam)*, *ql(quinquennialis)*, *ssti(suprascripti)*.

A (tab. 6, cols. 1, 2, 4-8, 10, 11, 13-19) is minuscule, varying in width from the narrow, almost closed bow to the slurred ligature form placed high in the line.

B (tab. 6, cols. 5, 12-18, 27) has bow at right, except when linked with following letter; the bow is open or closed, often broad and somewhat square, returning either upon itself or upon the stem.

C (tab. 6, cols. 1, 4-7, 16, 17, 19, 24-26) shows the usual variation of single-stroke and broken-back letters; base is frequently at an angle with back, placed horizontally or curved downward; ligature is either through cap, or, with following *i*, through base.

D (tab. 6, cols. 5, 11, 16-22, 31) has open or closed bow and, regularly, narrow looped stem; peculiar is the form with stem folded left and linking to preceding letter; upper side of bow is prolonged to link with following letter.

E (tab. 6, cols. 2, 3, 5-8, 10-12, 15, 16, 23-28) has the various usual combinations of curve and arm; one linked single-stroke letter has base bowed left to combine with upper curve.

F (tab. 6, cols. 5-9) has clubbed, looped, or folded stem, with or without bow to springing point of arm.

G (tab. 6, cols. 14-20), of varying width, has double-curved tail with full cap stroke, or 3-shaped tail with full or half cap.

H (tab. 6, cols. 3, 6, 7, 11, 12) has stem bowed, looped, double-looped, or folded.

I (tab. 6, cols. 1, 8-14, 18, 24, 29-41, 47, 57-59) is short, or long above or below the line; a bowed form is sometimes linked with preceding letter by hook from lower side of bow.

K (tab. 6, col. 1) has upper arm springing from base of stem, and lower arm in a short second stroke linking middle of upper arm to letter following.

L (tab. 6, cols. 4, 8, 18-22, 24,) has stem regularly bowed, clubbed, or looped, sometimes double-looped.

M (tab. 6, cols. 2-5, 9-11) shows slight variations of the minuscule form; ligature is sometimes by hook plus a short straight link stroke.

N (tab. 6, cols. 1, 2, 12, 15) is minuscule, sometimes with horizontal finial.

O (tab. 6, cols. 2, 3, 10, 12-14, 16-26) is open or closed; in ligature, with sides prolonged, hooked, or tied; the curve when final in ligature is sometimes left open, sometimes closed by a separate straight stroke.

P (tab. 6, cols. 5, 7, 8, 10, 11, 15-23), written with one or two strokes, has stem low, curved or oblique left and sometimes hooked right; ligature is through top of bow.

Q (tab. 6, cols. 14-18), standing alone, generally has bow closed and tail curved or double-curved left, sometimes hooked right; in ligature the bow is open or slurred in a curved line; bow and tail join in a sharp angle or a tie.

R (tab. 6, cols. 3, 6-11, 15) has clubbed, folded, or tied stem and flat or downward oblique arm.

S (tab. 6, cols. 1-3, 8, 9, 12, 16-21) has clubbed or folded stem, the first member variously straight, hooked, or bowed.

T (tab. 6, cols. 3-5, 7, 9-11, 14, 16-25) has stem curved or bowed, or, in ligature, slurred; the cap at left curves low toward base of stem, occasionally even crossing it (col. 25); single-stroke forms have cap joined to top of stem or to upward hook from base of stem (cols. 11, 18, 21).

U (tab. 6, cols. 1, 2, 4, 8-10, 12, 13, 16-20) is regularly a single or two-stroke minuscule, sometimes nearly closed; the simple-curve letter above the line is occasional.

X (tab. 6, cols. 8-12) has, beside the usual forms with curved and hooked members, a single-stroke letter with the two right arms joined in a loop; ligature with preceding letter is through either left arm or through upper right arm.

Y and Z are wanting.

The date is (l. 15): *sub. d. kal. April. sexies p.c. Paulini Iun. v.c.*, i.e. April 1, 540 A.D.

89. Lost?

Deed of Sale. "Arezzo, Una volta nell' archivio della ch. cattedrale." Date about 540.<sup>88</sup> Published: Marini, no. 118 and tab. 15 (showing some of the lines written in Gothic); Gori-Doni, Pref., p. XXV, p. 496, no. 11; (? Cod. Barberinus 3040, p. 45, etc.); Massmann, *Goth. Urk.*

90. Florence, Archivio di Stato.

Deed of sale. 25 x 97 cm. Five jointures, the pieces measuring, from left to right: 16.5 cm., 19.6 cm., 20.7 cm., 19.5 cm., 19 cm. Writing along the fibres. Published:

<sup>88</sup> Description by Marini. Massmann was unable to find the original.



Marini, no. 117 and tab. 16; Paoli, no. 2; cp. Massmann, *Goth. Urk.*, col. 11, note 1; (Brunetti, F., *Codice diplomatico Toscano*, B, part 2, vol. 1 (Florence, 1833) ).

Ligatures: *a* with *b, c, d, e, l, m, n, p, q, r, s, t, u, x*; *c* with *c, e, i, l, o, s, t, u*; *d* with *e, g, i, n, o, q, s, u*; *e* with *a, b, c, d, e, g, i, l, m, n, o, q, r, s, t, u, x*; *f* with *e, i, o, u*; *g* with *a, e, i, o, r, u*; *l* with *a, e, i, l, o*; *o* with *c, d, g, l, m, n, p, r, s, u*; *r* with *a, b, c, e, i, m, n, o, p, s, t, u*; *s* with *a, b, c, e, o, p, s, t*; *t* with *a, c, d, e, i, o, r, t, u*; *u* with *e, t*.

Abbreviations by contraction: *pb* (*praesbyter*), *sse* (*supra-script(a)e*). Abbreviation marks: horizontal overline, oblique cross stroke and, once, a downward final stroke, developed from the sign 3.

A (tab. 6, cols. 1, 4-6, 8, 16) has various wide and compressed minuscule forms; the ligature form high in the line is sometimes slurred, sometimes written in horizontal position.

B (tab. 6, cols. 5, 8, 17-19, 21, 50) has stem bowed, clubbed, looped, or, occasionally, double-looped; the bow line is open, closed, or intersecting the stem; in ligature with following letter the bow is at left.

C (tab. 6, cols. 1, 2-7, 9, 12, 17, 25-29), except sometimes when alone or first in ligature, has curve broken near base, the two parts occasionally intersecting; ligature is through either cap or base.

D (tab. 6, cols. 20, 22-27, 29-33, 39, 61-65) regularly has stem looped, double-looped, or folded; ligature with preceding letter is regularly through hook of bow line; in the occasional ligatures with following letter the link is formed by prolonging bow line across stem; the stem is hooked or looped to link with preceding letter.

E (tab. 6, cols. 2, 3, 5-8, 29-34), standing alone or first in ligature, has sometimes the quasi uncial form; otherwise, the form with curve broken midway or low in the back, with arm attached to upper curve in angle, bow, tie, loop, or fold.

F (tab. 6, cols. 3, 4, 6, 7) has folded or looped stem, with arm attached in separate stroke or by fold or bow.

G (tab. 6, cols. 13, 18, 21-23) resembles the figure 3 plus the right half cap, with left side of cap round or flat; or has full cap stroke over tail consisting of upper oblique and lower curve.

H (tab. 6, cols. 3, 13) occurs rarely, with stem folded or looped left.



I (tab. 6, cols. 1, 3, 4, 6, 9, 15, 19, 24, 29, 36, 38, 40, 42, 43, 45-50), both when standing alone and in ligature, shows, beside the simple straight or curved and hooked forms, various bows, ties, loops, double loops and folds.

K (tab. 6, col. 2) has double-curved stem and small angle intersecting stem.

L (tab. 6, cols. 8, 12, 13, 17, 18, 25-28) has stem, variously, simple, looped, or double-looped; the base, its position and length depending on the position of initial stroke of letter following it in ligature, is occasionally broken from the stem and hooked upward left (cp. the similar broken curves of *c* and *e*).

M (tab. 6, cols. 2, 3, 6, 12, etc.) is minuscule, with last stem oblique left.

N (tab. 6, cols. 1, 3, 10-12, 16) is minuscule, with latter stem bent inward.

O (tab. 6, cols. 1-3, 5, 10, 13, 14, 27-29) has its sides nearly or entirely closed, sometimes by separate stroke, or intersecting; ligature is by hook or tangent.

P (tab. 6, cols. 8, 11, 21, 24-28) is linked either at top of bow, where stem is tied to bow, at top of single stem, with bow in separate stroke, or at top of looped stem in a single stroke with bow; the occurrence of all these forms outside of ligature is new here.

Q (tab. 6, cols. 2, 13-15, 18-20) has closed, open, or, in ligature, slurred bow joined with tail in angle or fold; the finishing hook is generally right.

R (tab. 6, cols. 3, 6, 9, 12, 13, 16) generally has flat cap; the stem is folded or is tied or looped at either end.

S (tab. 6, cols. 2-4, 9, 13, 17, 22, 23) has folded, tied, or looped stem, with arm oblique upward or hooked or folded downward.

T (tab. 6, cols. 3-5, 8, 9, 14, 16, 19, 22, 23, 26-29, 38) has stem variously hooked or nearly bowed, or, in ligature, slurred; the cap is oblique or curved low at left; ligature is through either top or base of stem.

U (tab. 6, cols. 1, 2, 4-6, 14, 18, 21-25), above the line, is the open simple curve in vertical or horizontal position; in the line, regularly the minuscule, with second stem sometimes prolonged in a vertical tail suggesting the letter *y*.

X (tab. 6, cols. 13-15) has double-hooked crossarms more or less oblique, and is linked with preceding letter through lower right or either upper arm.

Y and Z are wanting.

The date is (l. 10): *XVII kal. Augustar. act. in classe Rav. Basilio v.c. cons. ind. quarta*, i.e. July 16, 541 A.D.

91. Cairo, Pap. 67031.

Provenance Antinoe. Edict of a *dux Thebaidis*. Bilingual, Greek and (signature and dating) Latin. 32.7 x 33 cm.<sup>89</sup> Published: Maspero, J., *Catalogue général des antiquités du Musée du Caire. Nos. 67001-67089. Papyrus Grecs d'époque Byzantine*, no. 67031 and plate 21. Cp. *Id.* (*Journal d'entrée du Musée*, no. 40774).

Ligatures: *a* with *l*(?), *n*, *t*; *c* with *e*; *e* with *c*, *m*; *k* with *a*; *r* with *i*; *t* with *i*.

Abbreviation marks: a long oblique cross stroke, the curved overline, and the sign 3 joined to the final letter.

A (tab. 6, cols. 21, 38, 42, 65) is open or closed minuscule, with high shoulder, sometimes tied.

B (tab. 6, cols. 8, 78) has erect clubbed stem, with rather square bow at right and closed.

C (tab. 6, col. 23) links with preceding letter through middle of back, with following, through cap.

D (tab. 6, cols. 1, 84) shows a large, flourished capital form, and, hardly legible, a cursive form with open bow and looped stem.

E (tab. 6, cols. 39, 74) is broken at middle of back, and upper part of curve is joined with arm by long bow or loop.

F (tab. 6, col. 36) has a single-stroke form with simple stem.

G and H are wanting.

I (tab. 6, cols. 5, 6, 50, 52), in ligature, is oblique left below the line, sometimes hooked right.

K (tab. 6, col. 7) has arms written in a single curved line.

L (tab. 6, cols. 65, 74) has double-looped stem, broken below the loops.

M, N, O are regular minuscules.

P and Q are wanting.

R (tab. 6, col. 66) has initial hook and folded stem.

S does not occur.

T (tab. 6, cols. 23, 34, 53) is written with two curved strokes; ligature with preceding letter is at top of stem beneath cap, with following, through cap.

U is wanting.

<sup>89</sup> Description by Maspero. Studied in facsimile.

X (tab. 6, col. 38) occurs only as a numeral.

Y and Z are wanting.

The date is (l. 4): Τῶν εὐσεβεστ. κ. γαλ[η]νοτάτων . . . (cp. ll. 9-10, κρατίστου καὶ καλλινίκου ἡμῶ[ν] βασιλέως) i.e. "sans doute Justinien et Theodora,"<sup>90</sup> c. 547 A.D.

92. Rome, Vatican.

Deed of sale. 226 x 25-28.5 cm. 10 pieces joined, measuring: 23 cm., 22.5 cm., 23 cm., 22 cm., 24.7 cm., 23.3 cm., 23 cm., 21.5 cm., 21.5 cm., 21 cm. Writing across the fibres. Published: Marini, no. 114; *Anon. Cod. Ottobon.* 3168, fol. 134; Grimaldi, in *Cod. Vat.* 6064, fol. 14<sup>r</sup> (21<sup>r</sup>)-19<sup>r</sup> (26<sup>r</sup>); Gori-Doni, p. XXIV and p. 480, no. 5; Maffei, p. 151; (Mitarelli, p. 391); *Novv. Tr.*, 3, pp. 627, 633, and tab. 63, I, ii and II, iii; (Muratori, *A. m. a.*, 2, p. 1007); Marucchi, no. 14; Spangenberg, 2, pp. 182-186.

The statements and signatures of the six witnesses are in different hands; that of *Iulianus* (ll. 92-97) is in Greek. Ligatures: *a* with *a, b, c, d, e, g, l, m, n, r, t, x*; *c* with *a, e, i, o, t, u*; *d* with *i, n*; *e* with *a, c, e, f, g, h, i, l, m, n, o, r, s, t, u, x*; *f* with *a, i, u*; *g* with *a, e, i, n, o, r*; *l* with *a, e, i, o*; *n* with *i*; *o* with *c, d, e, g, m, n, q, r, s, t, u*; *r* with *a, b, d, e, i, m, n, o, p, u*; *s* with *e*; *t* with *a, d, e, f, h, i, l, o, p, r, t, u*; *u* with *e*; *x* with *i*.

Abbreviations by contraction: *dln* (*dolum malum*), *sso*, *ss-tam*, *ssti*, *sstorum*, *sstis* (*suprascripto*, etc.), *v strn* (*vir strenuus*).

A (tab. 6, cols. 1-4, 8, 16, 20-22, 24) is minuscule, sometimes nearly closed, with occasional ties; in various positions in ligature.

B (tab. 6, cols. 5, 20, 22, 23) has bow line at right, open or closed either upon itself or upon the stem; the stem is regularly looped or double-looped.

C (tab. 6, cols. 4-7, 15-17, 28, 30) has single-stroke or broken curve; ligature is through either base or cap.

D (tab. 6, cols. 1, 5, 20, 24-27, 34, 35) has bow initial in stroke and looped stem except when linked with following letter, where the stroke begins with hook at top of stem and bow line links with the letter following.

E (tab. 6, cols. 2-8, 10-13, 15, 16, 19, 22, 29, 32, 36-41) is,

<sup>90</sup> Maspero, *l.c.*



variously, uncial, or minuscule with arm and cap in the various combinations with angle, curve, bow, loop, or fold.

F (tab. 6, cols. 3, 7, 10-12) has stem hooked, looped, clubbed, or folded, with cap and arm separate or combined with fold or bow.

G (tab. 6, cols. 5, 6, 8, 19, 21, 24-27) resembles figure 3 plus intersecting cap stroke; or has tail in double curve or combined oblique and curve, with downward curving cap stroke.

H (tab. 6, cols. 3, 6, 14-16) has stem bowed, looped, double-looped, or folded; the second stem is straight or curves slightly inward.

I (tab. 6, cols. 1, 3-11, 13-21, 24, 25, 28, 30, 31, 35, 38-41, 44, 46, 48, 50, 52) is straight, hooked or bowed top left, often hooked right at base; in ligature, by hook, bow, loop, double loop, or fold, often running below the line, generally without finishing hook.

K (tab. 6, col. 3) has double-curved lower arm springing from middle point of upper.

L (tab. 6, cols. 16, 29-31) has bowed or looped stem and upward curving base.

M (tab. 6, cols. 2, 3, 5, 6, 13, etc.) is minuscule, with last stem slightly curving inward.

N (tab. 6, cols. 2, 3, 11, 13, 16, 17) is minuscule, sometimes linked between other letters.

O (tab. 6, cols. 2, 5, 7, 8, 13, 16, 30, 31), standing high or low in the line, generally closed, links by hook or tangent.

P (tab. 6, cols. 10, 22, 23, 27, 29) has stem and cap separate or tied; ligature is regularly through top of stem.

Q (tab. 6, cols. 5, 9, 10, 12, 19, 21, 22) has bow partially or entirely closed, except when slurred in ligature; tail hooks right or left.

R (tab. 6, cols. 2-4, 6, 9, 10, 14, 17-21) has tied, clubbed, or folded stem combined with arm in curve, angle, or tie.

S (tab. 6, cols. 1-5, 8, 12, 14, 15, 20, 21, 24-26) has stem clubbed, folded, or tied, sometimes with finishing hook or bow left; the arm extending upward or curved downward.

T (tab. 6, cols. 3-5, 9, 10, 15, 20, 22, 23, 29-39) has both strokes curved and hooked, or looped; in new ligature forms the horizontal slurred stem folds or curves backward, forming double curve with cap (cols. 32, 33).

U (tab. 6, cols. 2, 4-7, 9, 11, 15, 22, 26-28) is generally minuscule; the simple curve sometimes when final in ligature,



and regularly when placed horizontally above the line in ligature.

X (tab. 6, cols. 5, 7, 18) has one crossarm curved or double-hooked; ligature is through the upper arms.

Y and Z are wanting.

The part of the document containing the names of the consuls for the year has been lost but a second dating (l. 75), *quinqviaes p. c. ss.*, may be referred to one of the following years: *V p.c. Paulini Iun.*, i.e. 539 A.D., *V p.c. Iustini*, i.e. 544 A.D., or *V p.c. Basilii*, i.e. 546 A.D.

93. Naples, Biblioteca Nazionale.

Deed of sale. Latin with some statements and signatures in Gothic (ll. 87-91, 93-97, 126-129, 136-139). 262 x 27 cm. 7 pieces joined, measuring, from top to bottom: 42.2 cm., 18.5 cm., 60.8 cm., 20.7 cm., 21.8 cm., 21.3 cm., 14 cm. Writing across the fibres. Published: Marini, no. 119 and tab. 17; Doni-Gori, pp. XII-XIII; Massmann, *Goth. Urk.* (with facs.); Spangenberg, 2, pp. 196-201 (with facs.).

The seven Latin hands of the document and signature show only slight differences. Ligatures: *a* with *a, b, c, d, e, f, g, i, l, m, n, p, q, r, s, t, u, x*; *b* with *e*; *c* with *a, c, d, e, i, l, o, q, r, t, u*; *d* with *e, i*; *e* with *a, b, c, d, e, f, g, i, l, m, n, o, p, r, s, t, u, x*; *f* with *a, e, i, o, r, u*; *g* with *a, e, i, n, o, r, u*; *i* with *d, g*; *l* with *a, c, e, i, l, o, q, s, u*; *o* with *c, f, g, l, m, n, p, q, r, s, t*; *r* with *a, b, c, e, f, h, i, m, n, o, p, s, t, u*; *s* with *c, e, i, o, s, t*; *t* with *a, b, c, d, e, f, h, i, m, n, o, p, r, s, t, u*; *u* with *r, s*; *x* with *a*.

Abbreviations by contraction: *hhbus* (*heredibus*), *sce* (*sanc-tae*), *ssta*, *ssti*, *sstae*, *sste*, *ssto*, *sstis*, *sstas* (*suprascripta*, etc.) Beside the usual abbreviation marks, punctuation points in the line are not infrequent, double points are occasional.

A (tab. 6, cols. 1-6, 8-12, 17, 18, 20, 21, 28-35) has bow open or nearly closed, sometimes slurred in ligature; the tail is often long, horizontal or oblique, sometimes finished with a flourish.

B (tab. 6, cols. 5, 7, 8, 10, 12, 16-20, 24-31) has open or closed bow at right, with stem variously straight, hooked, bowed, or looped.

C (tab. 6, cols. 1-7, 10, 12, 13, 15, 17-20, 24, 27, 31-33, 35-37) is written sometimes with a single stroke but generally has, even when alone or first in ligature, the curve broken at top or base of back.

D (tab. 6, cols. 1-3, 5, 20, 22, 24, 36-45) has stem hooked, in single or two-stroke forms, double-curved, looped, double-looped, or folded; forms in ligature with following letter have simple stem and link through bow line.

E (tab. 6, cols. 2-11, 14, 15, 18, 21, 26, 29, 32, 36, 38, 42-50) appears in great variety; with back broken or unbroken, and arm separate or joined with upper part of curve by angle, fold, bow, tie, or loop; in some new forms, both base and cap are bowed inward to springing point of arm, and occasionally, while the back is broken, the right curve of base is continued into upper curve which loops to springing point of arm (col. 45).

F (tab. 6, cols. 3, 4, 6-11, 13-22) has stem simple, folded, or looped; the cap is looped or folded; arm intersects stem in straight or curved line or is attached to bow or loop of cap.

G (tab. 6, cols. 5-8, 10, 11, 23, 27, 29-37) has tail consisting of vertical or oblique over curve or double curve or 3-shaped curve; the cap is written above, across, or on one side alone, and links with following letter.

H (tab. 6, cols. 1, 9-11, 17-27) has stem simple, curved or hooked, or bowed, looped, or double-looped.

I (tab. 6, cols. 1, 3-5, 8-11, 13-16, 18-21, 24, 26-33, 35, 36, 38-40, 42, 44-47, 50-62) is straight, or hooked, bowed, looped, double-looped, or folded at top, and hooked, generally right, at bottom.

K does not occur.

L (tab. 6, cols. 1-9, 11-13, 15-18, 29-37) has stem simple and hooked, or bowed, looped, or double-looped; the base is occasionally written with separate stroke (col. 37).

M (tab. 6, cols. 1-6, 14-18) is a regular minuscule, with occasional ties between members (col. 17).

N (tab. 6, cols. 2, 3, 10-13, 16, 18-21) is regularly minuscule, sometimes written with two strokes.

O (tab. 6, cols. 1-3, 5-14, 16, 19, 20, 24, 30, 32-39) has its sides generally in closed oval and hooked, looped, or prolonged in tangents to link with adjoining letters.

P (tab. 6, cols. 2-4, 10, 11, 15, 16, 21, 23, 24, 30-35, 37, 38) has simple, folded, or looped stem; ligature is through either stem or top of bow.

Q (tab. 6, cols. 7, 23-26) has bow more or less open and tail, generally short, hooked right.

R (tab. 6, cols. 2-10, 12, 14, 18-20, 22-34) has stem regularly

folded, with arm attached through curve, angle, tie, or, sometimes, bow (col. 28).

S (tab. 6, cols. 1-5, 8, 9, 12-15, 18, 21, 24, 27-35) has stem clubbed, tied, looped, or folded.

T (tab. 6, cols. 1-9, 11, 14-16, 20, 22, 35, 36, 41-43, 45-53) has stem hooked or, occasionally, bowed; and cap more or less curved, sometimes starting from a point near base of stem; the right hook at base of stem is sometimes continued into cap stroke which, linking with following *i* by horizontal fold, resembles the folded stem of *d* (col. 49); ligature with preceding letter is through top of stem or through base of slurred stem.

U (tab. 6, cols. 1-6, 9-13, 17, 21, 23, 25, 30-39) is minuscule, except when placed above the line, or, occasionally, when final in ligature; the long final stroke is occasional.

X (tab. 6, cols. 8, 16, 17, 20-23) has crossarms double-curved and hooked, except the lower left arm which is either straight or hooked right; ligature with preceding letter is through either left arm.

Y and Z are wanting.

The dating may be gained from l. 87: *Actum diae et decies p. c. ssti.*, i.e. one of the following; *p.c. Paulini Iun. a. X*, i.e. 544 A.D., *p.c. Iustini a. X*, i.e. 550 A.D., or *X p.c. Basili*, i.e. 551 A.D.

94. Venice, Church of S. Giorgio de' Greci.

Deed of gift. 200 x 29 cm. 8 pieces joined, measuring, top to bottom: the first seven, c. 12 cm., the eighth, 16 cm.<sup>k</sup> Published: Marini, no. 86 and tab. 9; (Zannetti, *Descrizione e Spiegazione di un antichissimo e segnalato Papiro*); Spangenberg, 2, pp. 253-255 (with facs.).

Beside the hand of the main document five others may be distinguished; l. 64, l. 65, l. 66, l. 67, ll. 68-81. Ligatures noted: *a* with *c, d, e, n, p, r, s, u*; *b* with *d, e, i*; *c* with *o, t*; *e* with *c, m, n, p, r, s, t*; *g* with *u*; *l* with *a, i*; *o* with *d, m, n, s*; *r* with *a, i, n, o, s, x*; *s* with *t*; *t* with *a, e, i, r, s, u*.

<sup>k</sup> Measurements of different pieces furnished by my friend Mr. H. J. Hughes, of Baltimore. The study of this ms. was cut short by the discovery of the monk in charge that, for access to it, a special *permesso* was required, for the obtaining of which time failed. The alphabetical analysis is, consequently, based on a hasty copy of a couple of lines from the original and on Marini's facsimile.



Abbreviations by contraction: *sstae*, *sstis* (*suprascriptae*, etc.).

A (tab. 6, cols. 1-6, 24, 29, 35-40) is open minuscule, with occasional loops, and occasional long finials; in ligature often high in the line.

B (tab. 6, cols. 31, 33, 34, 46) has stem bowed, or double or triple-looped, with bow at right except when the letter is linked with following letter.

C (tab. 6, cols. 1, 3-7, 9, 10, 19, 31, 34, 39, 40) has back unbroken, or broken at middle or base; ligature with preceding letter is through base, with following, through either base or cap.

D (tab. 6, cols. 1, 3, 6, 27, 46) has stem clubbed, bowed, looped, or folded.

E (tab. 6, cols. 2, 5, 6, 10, 21, 37, 46, 51, 52) has curve full, or broken at or near base; arm is in separate stroke or attached to cap in bow or fold.

F does not occur in the portion of the ms. studied.

G (tab. 6, cols. 6, 38) has sharp double-curved tail, with separate cap stroke.

H (tab. 6, col. 12) has bowed or looped stem.

I (tab. 6, cols. 3-5, 9-11, 13, 16, 18, 19, 22, 24, 30-32, 39, 41, 47, 52-54, 59, 60) is hooked or bowed, or, in ligature, looped or double-looped, at top; and straight or hooked either side at bottom.

K is wanting.

L (tab. 6, cols. 38-40) has bowed or looped stem.

M (tab. 6, cols. 1-6, 19-22) is minuscule, occasionally with more or less elaborate finishing hooks or curves.

N (tab. 6, cols. 1, 2, 13, 16, 20-23) is minuscule, occasionally written with two strokes.

O (tab. 6, cols. 5, 19, 20) has sides intersecting.

P (tab. 6, cols. 5, 7, 11, 30, 36, 40, 41) has simple or clubbed stem; ligature is through top of bow.

Q (tab. 6, col. 27) has closed bow and long tail hooked right.

R (tab. 6, cols. 2-4, 6, 8-13, 35, 36) has clubbed, folded, or tied stem joining arm in curve, angle, or tie.

S (tab. 6, cols. 2, 8, 9, 12, 13, 19-24, 29-34, 36) has stem clubbed, tied, folded, or looped.

T (tab. 6, cols. 2-4, 8, 10, 11, 22, 26, 35, 45, 54) has stem with large or small hook, and cap curving low at left of stem;



ligature with preceding letter is through either top of stem or base of slurred stem.

U (tab. 6, cols. 1-3, 19, 23, 38, 40-43) is generally a single or two-stroke minuscule, with long final member; the *v*-shaped form is occasional, especially when final in ligature; when placed above the line, the simple curve is usual.

X, Y, and Z were not read.

The date is (ll. 58-60): *imp. dom. n. Justiniani anno vicen-  
simo septimo sub d. prid. nonar. Aprilium duodecies p. c. Basili  
Iun. v. c. - - - ind. prima*, i.e. 553 A.D.

95. Ravenna, Archivio Arcivescovile.

Document of church gift. 44 x 27 cm. Writing across the fibres. Published: Marini, no. 140; Spangenberg, 2, p. 357 (with facs.).

The writing is in two hands. Ligatures noted: *a* with *b, e, l, m, n, p, r, s, t, u*; *c* with *e, i, o*; *e* with *a, c, d, e, f, i, l, m, n, p, r, s, t, x*; *f* with *c, e, i, u*; *g* with *u*; *i* with *l*; *l* with *i*; *n* with *i*; *o* with *c, f, g, m, n, p, s, x*; *r* with *e, i, o, u*; *s* with *i, s, t*; *t* with *c, d, e, f, g, h, i, o, p, r, s, t, u, z*; *u* with *g, i*; *x* with *e, i*.

Abbreviations by contraction: *ms*(*meus*), *sci*, *sce*(*sancti*, etc.).

A (tab. 6, cols. 1, 2, 4, 5, 8, 10, 22, 35, 41-43) is the open minuscule, sometimes with long, straight or hooked horizontal tail; the left side of bow is sometimes curved inward, the right side, sometimes tied.

B (tab. 6, cols. 22, 35-37) has simple or looped stem, with bow line closed upon itself, or open and, sometimes, finished with hook or tie.

C (tab. 6, cols. 1, 3, 4, 6, 7, 10, 17, 19, 41-44) has back unbroken, or, as always when following another letter in ligature, broken at either top or, generally, bottom; ligature with following letter is through either cap or base.

D (tab. 6, cols. 1-3, 5, 6, 9, 12, 47) has simple, clubbed, or looped stem, sometimes with slurred bow line.

E (tab. 6, cols. 2, 5, 6, 10, 11, 21, 34, 37, 40, 53, 54) shows quasi uncial forms and cursive forms; with curve broken near base; and with cap and arm joined by bow or fold.

F (tab. 6, cols. 3, 7, 16, 17, 23-25) has stem clubbed, looped, or folded; with arm either in separate stroke or joined with cap by bow, fold, or loop.

G (tab. 6, cols. 5, 10, 32, 39-41) has tail in oblique and curve or in 3-shape, with full or divided cap stroke.

H (tab. 6, cols. 5, 6, 16) has stem clubbed, bowed, folded, or double-looped.

I (tab. 6, cols. 1, 3, 5, 6, 8-11, 13, 16, 18, 29, 30, 38, 40, 44, 50, 51) is straight, or hooked or bowed top left; high ligature forms have double loop; unusual is the ligature with following letter, through upward curve from base.

K is wanting.

L (tab. 6, cols. 12, 30, 35, 41-44) has stem simple, clubbed, bowed, tied, or looped; sometimes with break in curve between stem and base.

M (tab. 6, cols. 1-5, 16) is a regular minuscule.

N (tab. 6, cols. 2, 5, 10, 13, 19-25) varies between capital and single or two-stroke minuscule form; unusual is the ligature with following letter through short arm stroke.

O (tab. 6, cols. 2, 5, 11, 12, 14, 40-42) links by tangent or intersecting tangents or by hooks on either side.

P (tab. 6, cols. 2, 4, 5, 8, 30, 31, 37, 42) has simple, clubbed, looped, or folded stem; ligature is through top of either bow or stem.

Q (tab. 6, cols. 4, 12, 28-31) has open or closed bow; the stem is oblique left, hooked right or left.

R (tab. 6, cols. 2-4, 6, 9-12, 18, 19, 34, 37, 38) has stem clubbed, folded, tied, or looped, and joined with arm in curve, angle, tie, clubbing, or loop.

S (tab. 6, cols. 1, 3, 8, 9, 12, 13, 34, 37) has clubbed or folded stem, with arm straight or hooked downward.

T (tab. 6, cols. 1, 2, 4, 6, 9, 26, 37, 42, 44, 45, 55) has hooked stem and waved cap stroke; ligature with letters on either side is through cap; one form, resembling *o*, has stem hooked left in single stroke with cap.

U (tab. 6, cols. 2, 4-6, 12, 14, 17, 19, 25, 26, 44) is a simple curve or a minuscule written with one or two strokes, sometimes with tail, resembling *y*.

X (tab. 6, cols. 9, 16, 24, 25) has generally double-curved crossarms.

Y is wanting.

Z (tab. 6, cols. 1, 2) is angular but has curved cap and base.

The date is (ll. 7-8): *imp. d. n. Iustiniano p. p. Aug. anno tricensimo primo p. c. Basili v. c. anno XVI. p. ind. quinta*  
- - - *III non. Iunias*, i.e. June 3, 557 A.D.

96. Rome, Vatican.

Appointment of guardian. 216.5 x 14-30 cm. Ten pieces, measuring: 14 cm. (fragmentary), 23 cm., 22.8 cm., 23 cm., 23.8 cm., 20.5 cm., 23 cm., 21.5 cm., 23.7 cm., 20 cm. Writing across the fibres. The papyrus while still in a roll was eaten through so that now there are small holes (c. 3.5 x 5.5) 6-7 cm. apart. Published: Marini, no. 79; (Montfaucon, *Diar. Ital.*, p. 64); (*Id.*, *Palaeogr.*, p. 15); (*Mem. de l'Acad. des Inscr. et Belles Lettres* 6, p. 604); (*Suppl. Antichità spiegata*, 3, p. 213); Maffei, *Dipl.*, p. 54, pp. 161-163; Marucchi, no. 13.

The ink of the first part of the document is much faded. The dating (ll. 106-107) is in a hand other than the scribe's. Following l. 107 are short lines, apparently in a later hand beginning, "H - - - ." The ink is so faded as to make them almost illegible; the fourth line reads, "Le Goul et Charnot testes rogati ad hoc."<sup>1</sup> Ligatures noted: *a* with *c, e, l, n, t, u*; *c* with *i, o, t, u*; *e* with *a, c, d, f, g, i, l, m, n, p, r, s, t, u, x*; *f* with *a, e, i, l, r*; *g* with *a, e, i, n, o, r, u*; *l* with *a, e, f, i, s, u*; *o* with *c, n, r, s*; *r* with *a, d, e, f, g, i, n, o, s, t*; *s* with *t*; *t* with *a, c, e, h, i, o, r, u*.

Abbreviation by contraction: *comt* (*comitiacus*).

A (tab. 6, cols. 1-6, 8, 18, 25, 28, 44-46) is open minuscule, often with upward final hook; ligature forms are variously compressed or slurred.

B (tab. 6, cols. 38, 39) has clubbed or double-looped stem, with somewhat angular open bow with short vertical finial.

C (tab. 6, cols. 4-7, 17) has curve full or broken near base; ligature with following letter is through either base or cap.

D (tab. 6, cols. 1, 3, 5, 6, 10) has clubbed or looped stem.

E (tab. 6, cols. 2, 3, 5-8, 10, 11, 19, 21, 47) has curve full, or broken near base or in middle of back; the arm is written with separate stroke or combined with fold, bow, or loop of cap.

F (tab. 6, cols. 6, 7, 11, 14, 29, 30), except when used as an abbreviation, has stem clubbed, folded, or looped; and arm in separate stroke combined with bow of cap.

G (tab. 6, cols. 8, 15, 31, 35, 36, 42) has tail in curves, oblique and curve, or double curve, with full cap stroke above or intersecting the tail, or half cap.

H (tab. 6, cols. 8-11, 29) has looped or double-looped stem, with rather wide bow.

<sup>1</sup>Cp. Marini. This study limited to some twenty lines of the ms.



I (tab. 6, cols. 1, 3-6, 9, 18, 19, 21, 29, 30, 35, 38-40, 44, 46, 50, 52, 56) is bowed, looped, or, when high in ligature, double-looped at top; straight or hooked right at bottom.

K is wanting.

L (tab. 6, cols. 10, 12, 15, 16, 33, 34, 45, 46, 48) has stem clubbed, bowed, looped right or left, or double-looped.

M (tab. 6, cols. 1-5) is a regular minuscule.

N (tab. 6, cols. 2, 7, 10-13) is minuscule, with first stem either straight or hooked.

O (tab. 6, cols. 1-3, 5, 7, 10-12, 14, 16, 19, 24, 35, 43) consists of oval or oval and vertical angle; ligature is by hook or tangent prolongation of sides.

P (tab. 6, cols. 7, 11, 16, 33) has simple stem, straight or hooked left at bottom; ligature is through top of bow.

Q (tab. 6, cols. 5, 8, 11, 24) has open bow, with tail attached at an angle and curving downward left, sometimes hooked right.

R (tab. 6, cols. 4, 6-12, 15, 18-21, 38) has stem clubbed, folded, or tied, and joined to arm in curve, angle, tie, or fold.

S (tab. 6, cols. 1, 2, 9, 12, 17, 38) has folded stem, with arm curving slightly downward.

T (tab. 6, cols. 1-6, 9, 10, 13, 19, 26, 31, 45, 56, 57) has stem variously hooked, bowed, or, often in ligature, slurred; in a new form the stem loops to join left side of cap (col. 56).

U (tab. 6, cols. 1, 2, 4-6, 8, 13, 17, 29, 30, 45) is generally written with a single stroke in minuscule form.

X (tab. 6, col. 26) has curved arms.

Y and Z are wanting.

The date is (ll. 106-107): *sub. d. VIII id. Decembris p. c. Basili v. c. anno XVI*, i.e. January 6, 556-557 A.D.

97. Vienna, Hofbibliothek, Sammlung Rainer.

15 x 16 cm. Space at top 6.5 cm., at bottom 6 cm. Published: Wessely, no. 27 (with facs.).<sup>91</sup>

Ligatures: *a* with *n*, *s*; *l* with *i*.

A (tab. 6, cols. 4, 12) is a somewhat angular minuscule.

B (tab. 6, cols. 24, 25) has simple stem and closed bow.

C (tab. 6, cols. 18, 45, 46) has full or broken curve.

D, E, F, G, H are wanting.

I (tab. 6, cols. 1, 3, 5, 14) has occasional small hooks.

K is wanting.

<sup>91</sup> Studied in facsimile.



L (tab. 6, cols. 51, 52) has simple stem and low curving base.

M (tab. 6, cols. 14, 16, 23) is minuscule.

N (tab. 6, cols. 16, 22, 26) is minuscule.

O (tab. 6, cols. 11, 17, 40) is oval or angular, sometimes written with two strokes.

P (tab. 6, cols. 5, 43) has simple, straight stem.

Q is wanting.

R (tab. 6, col. 39) resembles s, with looped stem and hooked arm.

S (tab. 6, cols. 3, 5, 18, 40) has simple, folded, or looped stem.

T and U are wanting.

X (tab. 6, col. 27), with curved arm, occurs as numeral.

Y and Z are wanting.

The date is: XXXVIII pos(t) c. Basili bis anno XXI, i.e. 562 A.D.<sup>m</sup>

98. Paris, Bibliothèque Nationale.

Inventory of personal properties in charge of a guardian. Probably taken from Ravenna, along with other papyri, by the French in 1512.<sup>92</sup> Published: Champollion-Figeac, II, 2 (with facsimile in full from the plates used by Mabillon); (Cujas, *Observationes*, bk. 6, pp. 646-647); Brisson, *De Formulis*; Mabillon, *De Re Dipl.*, p. 345, 3 ("C. Iulii Caesaris testamentum"); *Id.*, *Suppl.*, pp. 73-76 (with facs. in full); (Rutgers); (Lipsius); (Paolo Colomesio, *Miscellanea Ist.*); Germon, *De Vet. Reg. Franc. Dip.*, p. 60; (Moroni, Carlo); (Schwartz, *De Ornat. Libror. Diss.*, 4, § 8, p. 147); (Saumaise, *ad Script. H. A.*, p. 191); (Naudée, Gabriel); (Conrad, F. C., *Parerga*, II, pp. 194-196, no. 1; III, p. 427; IV, p. 439); (Fabricius, *Bibl. Lat.* I, cap. X, in fine); (Terrasson, *Monuments de la Jurisprudence Romaine*, p. 75); (Zanetti, G. A., *Nuova Raccoltà delle Monete d'Italia*, II, p. 367); (Amaduzzi, *Leg. nov. Anecd.*, p. 261); (Fontanini, *Vind. Diplom.*, p. 98); Marini, no. 80; deWailly, *Notice LVIII* (with facs., pl. XI, 1); *Nouv. Tr.*, 2, p. 133; 3, p. 410; Arndt, tab. 1, c; Spangenberg, 2, pp. 347-354 (with facs.); Prou, p. 69; Delisle, Cujas, *Déchiffreur de Papyrus*.

<sup>m</sup> Liebenam, *Fasti*. Wessely has, "Die Jahreszahl ist die der Regierungsjahre Justinians, also a. 548."

<sup>92</sup> Champollion-Figeac. Studied in facsimile of Champollion-Figeac.

Ligatures noted: *a* with *a, b, c, d, e, f, g, i, l, m, n, o, p, r, s, t, u*; *c* with *a, c, e, h, i, l, o, r, t, u*; *d* with *i, r*; *e* with *a, b, c, d, e, f, g, h, i, l, m, n, o, p, q, r, s, t, u, x*; *f* with *a, e, i, o, r, u*; *g* with *a, e, i, l, n, r, u*; *i* with *o, s*; *l* with *a, b, c, d, e, i, l, o, s, t, u*; *m* with *i*; *n* with *i, s*; *o* with *a, b, c, e, f, g, i, l, m, n, p, q, r, s, t, u*; *r* with *a, c, e, g, i, m, n, o, p, r, s, t*; *s* with *a, c, d, e, h, i, l, n, o, p, s, t, u*; *t* with *a, b, c, d, e, g, h, i, l, m, n, o, p, q, r, s, t, u*; *u* with *e, g, r, s*; *x* with *c, f*.

Abbreviations by contraction: *scrn* (*scriniarius*), *supdta* (*supradicta*), *sstum*, etc. (*suprascriptum*, etc). The facsimile shows also occasional punctuation marks; the point in line, the comma, and a cross with double-hooked members.

A (tab. 6, cols. 1, 2, 4, 6-8, 18, 20, 23, 28, 38, 42, 44, 45, 47-59) is more or less open, sometimes angular, with occasional ties; the double-*c* shape is occasional, the two curves either separate or joined at base; the tail is often curved upward or prolonged horizontally, sometimes with upward or downward hook; it is sometimes continuous on lower curve of bow, when right side of bow is added with a second stroke; ligature forms high in the line are slurred so that the letter is sometimes reduced to a horizontal with tail.

B (tab. 6 cols. 3, 5, 14, 17, 25, 27, 40-45) has stem hooked, bowed, looped, double-looped, or folded; the bow is open or closed, has sometimes downward tie; its right side is sometimes written with a second stroke.

C (tab. 6, cols. 1, 3-10, 12, 17, 21, 22, 31, 35, 36, 47-50) has curve unbroken, or broken high or low in back.

D (tab. 6, cols. 1, 3, 18, 20, 23, 26, 34, 42, 45, 48-52), sometimes written with two strokes, has stem bowed, clubbed, looped, double-looped, or folded; in ligature between other letters, the loop of stem links with preceding; prolongation of bow line, with following.

E (tab. 6, cols. 2, 3, 5-8, 10, 14, 32, 37, 55-66) is sometimes a single-stroke cursive letter, with arm joined to bow or loop of cap; sometimes a two-stroke uncial or cursive with simple or bowed cap and, in ligature, broken curve, with arm joined by a separate stroke.

F (tab. 6, cols. 4-8, 17, 26-28, 32-34) has stem clubbed, folded, or looped; with arm separate or combined with bow or fold of cap.

G (tab. 6, cols. 1, 2, 35, 36, 42-51) has double-curved or

3-shaped tail, with right half cap, or full cap above or intersecting upper curve of tail.

H (tab. 6, cols. 6, 17, 23, 30-32) has hooked, bowed, folded, or, in ligature, looped or double-looped stem.

I (tab. 6, cols. 1, 3-6, 8-14, 18-21, 24, 30, 35, 37-41, 44-46, 48, 50, 52-55, 63-72, 74-78) shows the usual variety of hooks, bows, ties, loops, and double loops; unusual are the forms linking with the following letter (cols. 74, 76, 77).

K is wanting.

L (tab. 6, cols. 3, 4, 8, 11-13, 15, 16, 27, 30, 33, 38, 46, 49, 50, 53-56) has stem hooked, bowed, looped, double-looped, or folded; the base is occasionally written with a second stroke.

M (tab. 6, cols. 1, 2, 9, 19, 24-28) is minuscule, occasionally finished with long horizontal hooked stroke; unusual is the ligature with following letter (col. 28).

N (tab. 6, cols. 2, 11, 16, 25, 27-31) is minuscule, sometimes written with two strokes; ties are occasional; unusual ligatures with following letter are by link stroke from base or top of final member.

O (tab. 6, cols. 5, 8, 14, 16, 20-22, 24, 29, 35, 36, 44-57) has the various usual single-stroke forms with sides hooked or crossed in ligature; and a number of individual single and two or three-stroke forms, angular or oval, with sides variously hooked and curved.

P (tab. 6, cols. 7, 11, 15, 21, 27, 30, 37, 44-46) has stem straight, hooked right, clubbed, or looped; forms with bow and tail tied instead of with bow and stem are common, standing either alone or in ligature.

Q (tab. 6, cols. 7, 18, 25, 29, 32-39) has bow closed, open, or, in ligature, slurred; and tail oblique or curved left, generally hooked right.

R (tab. 6, cols. 1-4, 6-10, 12, 14, 15, 18, 19, 25, 27, 28, 38, 40-48) has simple stem, with arm in a second stroke; or clubbed, tied or folded stem, joined with arm in curve, angle, or tie.

S (tab. 6, cols. 1, 4, 5, 8, 9, 12, 13, 15, 27, 33, 35, 37, 41-54) has simple stem, with separate arm stroke, straight, hooked, curved, or tied; or clubbed, folded, or looped stem joining arm in curve.

T (tab. 6, cols. 2-5, 8, 9, 11, 20, 22-24, 27, 32, 33, 45, 55, 57, 64, 68, 69-73, 91) has stem hooked and cap curving inward on left; single-stroke forms have stem hooked either right or left to join cap stroke at left; ligature is either through top of



vertical stem or through slurred stem; in the former ligature the cap is sometimes bowed, sometimes diminished by half; in the latter, it sometimes springs from the end or a point beyond the end of the stem.

U (tab. 6, cols. 2, 4-6, 8, 11, 13, 16, 17, 19, 22, 23, 33, 46-50), except the simple-curve form above the line in ligature with following letter, is a single or two-stroke minuscule; here occurs an unusual ligature with following letter through hook right at top.

X (tab. 6, cols. 10, 13, 28, 29) has double curves; and links with preceding letter through upper left, with following, through lower right arm.

Y (tab. 6, col. 2) is written with a single stroke.

Z is wanting.

The date is (ll. 5-6): *imp. d. n. Iustiniano p. p. Aug. anno tricensimo octavo Rav. p. c. Basili anno vicensimo tertio* [s.d.] *iduuum Iuliar. ind. duodecima*, i.e. July 15, 565 A.D.

99. Rome, Vatican.

Account of gifts to church. 42-52.5 x 15.2-31.5 cm. 4 pieces joined, measuring: c. 12 cm., 16.5 cm., 17 cm., 7 mm. Writing across the fibres. Published: Marini, no. 87 and tab. 10; Grimaldi, fol. 20<sup>v</sup>-22<sup>r</sup> (27<sup>v</sup>-29<sup>r</sup>); Gori-Doni, p. XXIV, p. 487, no. 7; (Allatius, *Animadv.*, p. 67); (Fontanini, *Vind.*, p. 10); (Amadesi, I, App., XVIII, p. 156); *Anon. Cod. Ottobon.* 3168, fol. 134; Marrucchi, p. V.

Ligatures: *a* with *b, c, e, g, l, n, p, r, s, t, u*; *c* with *c, e, g, i, o, t*; *e* with *c, d, e, f, g, l, m, n, o, p, q, r, s, t, x*; *f* with *e, i, u*; *g* with *a, i, n, r, u*; *l* with *a, e, i, l, n, u*; *o* with *c, n, r, s*; *r* with *a, b, c, e, g, i, n, o, p, q, r, t, u*; *s* with *c, e, o, s, t, u*; *t* with *a, c, e, h, i, n, o, r, s, t, u*.

Abbreviations by contraction: *sca, sct, scta, scte, scm* (*sancta*, etc.), *scrn* (*scrinio*). A colon occurs in l. 25.

A (tab. 6, cols. 1-4, 8, 18, 21, 30, 42, 44, 56) is open minuscule, generally with tail curving slightly upward; ligature forms high in the line are sometimes slurred.

B (tab. 6, cols. 5, 10, 16, 23, 83) has stem bowed, looped, or folded; and bow line closed upon itself or upon the stem.

C (tab. 6, cols. 1-4, 6-9, 12, 15, 18, 21-24, 30, 36, 38, 49, 50) is written with one or two strokes; the full curve occurs even in ligature with preceding letter; ligature with following letter is through cap.



D (tab. 6, cols. 1, 21, 44, 53) has open or closed bow, joining at top or bottom with looped or clubbed stem.

E (tab. 6, cols. 2, 3, 5-8, 12, 21, 37, 47, 62, 67-69) has curve unbroken or, when linked with preceding letter, broken near base; the cap is folded, bowed, tied, or looped, in combination with arm.

F (tab. 6, cols. 4, 6, 7, 35) has stem folded or looped, with cap written either separately or continuously with fold or bow of cap.

G (tab. 6, cols. 3, 13, 20, 29, 37, 52, 53) has half cap, or full cap topping or intersecting the curve; the tail has oblique and curve, double curve, or tangent curves; in the last, the upper curve is sometimes nearly closed.

H (tab. 6, cols. 10, 24, 26, 27, 29, 32, 33) has stem hooked, bowed, looped, or, in ligature, double-looped.

I (tab. 6, cols. 1, 3, 6-8, 11, 13, 14, 21, 24, 25, 29, 30, 35, 39, 41, 44-46, 50, 52, 54, 59, 60, 70) is, at top, straight, hooked left, bowed, looped, or, in ligature, double-looped; and, at bottom, generally straight, sometimes hooked right or left.

K is wanting.

L (tab. 6, cols. 5, 6, 8, 9, 11, 13, 16, 23, 30, 33, 43, 57) has stem straight, hooked, looped, double-looped, or folded.

M (tab. 6, cols. 1, 2, 4, 27, 29, 30) is a regular minuscule.

N (tab. 6, cols. 2, 11, 13, 16, 23, 30) is minuscule.

O (tab. 6, cols. 1-3, 5, 14, 19, 24, 35, 58, 59) has sides generally closed or intersecting; in ligature, hooked or intersecting.

P (tab. 6, cols. 4, 5, 7, 10, 11, 27, 31, 37, 44) has stem straight, hooked, or folded; ligature is through either top of bow or top of simple or folded stem.

Q (tab. 6, cols. 3, 8, 18, 24, 40, 41) has bow more or less open; and stem, sometimes attached by tie, oblique or curved left and hooked right or left.

R (tab. 6, cols. 2-4, 6, 9-12, 18-20, 38, 47) has stem folded or tied, and combined with arm in curve, angle, or tie.

S (tab. 6, cols. 1-4, 6, 8, 9, 12, 18, 33, 34, 38) has stem folded or tied, and joining arm in angle or curve.

T (tab. 6, cols. 1-5, 8-11, 14, 19, 20-23, 26, 28, 35, 36, 45, 47, 57, 74, 75) has stem either vertical and hooked or, in ligature, slurred; the cap curves inward at left, often continuous with top of stem in a letter resembling single-stroke broken-back *c*.

U (tab. 6, cols. 2, 6, 12, 13, 17, 29, 50, 51) is generally minuscule, sometimes written with two strokes.

X (tab. 6, col. 26) has double-curved crossarms.

Y and Z are wanting.

The ms. is approximately dated by the mention of Agnellus, archbishop of Ravenna 556-569.<sup>92</sup>

100. (a) Rimini, Biblioteca Gambalunga. (b) Rome, Vatican.

(a) Gift to church. c. 28 x 49.5-57 cm. Fragmentary at the beginnings of the lines. Writing across the fibres. (b) Conclusion of (a). Frg. 1, 24.5 x 4.5-7 cm.; frg. 2, 30.5-32.5 x 139.5 cm. At the bottom a space of c. 15.5 cm., in which are the signatures. Five jointures. Writing along the fibres. Published: Marini, nos. 88 and 88 A; Maffei, *Dipl.*, p. 155; Gori-Doni, no. 14, p. 502, p. xxvi; Spangenberg, 2, pp. 255-259; Marucchi, no. 17.

The hands of the signatures (col. 2, ll. 9-12) are larger and somewhat rougher than the hand of the document. Ligatures noted: *a* with *b, c, d, e, g, i, l, m, n, p, q, r, s, t, u*; *b* with *e*; *c* with *a, c, e, i, l, m, o, r, t, u*; *e* with *a, b, c, d, e, f, g, i, l, m, n, o, p, q, r, s, t, u, x*; *f* with *a, e, f, i, r, u*; *g* with *a, i, n, r, u*; *l* with *a, e, i, l, m, q*; *o* with *b, e, f, g, h, l, m, n, p, q, r, s, u*; *r* with *a, b, c, e, g, i, m, o, p, r, s, t, u*; *s* with *c, e, l, o, s, t, u, y*; *t* with *a, d, e, g, h, i, n, o, p, r, s, t, u, y*; *u* with *e, i, o*.

Abbreviations by contraction: *sce*(*sanctae*), *sse*(*supra-scriptae*).

A (tab. 6, cols. 1-8, 13-16, 18, 21, 28, 29, 42-45, 56, 60-63) is minuscule, sometimes nearly closed at top; ties are occasional.

B (tab. 6, cols. 11, 13, 16, 21, 47-58) has bow at right, or, when first in ligature, at left; with bow line open, often with vertical finial, or closed upon itself; the stem is, variously, bowed, looped, double or triple-looped, or folded.

C (tab. 6, cols. 1, 3-7, 9-12, 17, 21, 22, 29, 39, 47, 48, 51) is written with single stroke, or, in ligature with preceding letter, is broken at base.

D (tab. 6, cols. 1-3, 5, 20-24, 27, 40, 43, 54-64) has stem, variously, hooked, bowed, looped, double or even quadruple-looped, or folded; with bow sometimes closed.

E (tab. 6, cols. 1, 2, 5-8, 10-12, 21, 23, 25, 32, 38, 40, 41, 46,

<sup>92</sup> Cp. Marini, *l.c.*

61, 66, 70-72) is written with one, two, or three strokes; the curve is full, or broken near base; the arm is separate, or combined with cap with angle, curve, bow, fold, or tie.

F (tab. 6, cols. 3, 6-8) has stem looped or folded, and arm either separate or combined with cap in bow or fold.

G (tab. 6, cols. 1-3, 5-7, 10, 26, 38, 40, 43, 46, 48, 49, 53-56) has double-curved or 3-shaped tail; with cap above, across, or at right of upper curve.

H (tab. 6, cols. 6, 11, 14, 15, 18, 23, 30, 32, 34-36) has stem straight, hooked, bowed, looped, double or triple-looped, or folded.

I (tab. 6, cols. 1, 3-12, 16, 18, 19, 21, 22, 24, 30, 35-40, 44, 45, 50, 52, 59-61, 64, 67, 73, 79-83) is straight, hooked, bowed, looped, or folded, at top; oblique or curved left, sometimes hooked right, at bottom.

K is wanting.

L (tab. 6, cols. 6, 8, 11-13, 15, 16, 20, 24, 30, 33, 35, 38, 56-62, 65, 66) has stem hooked, bowed, or folded either side, or double-looped.

M (tab. 6, cols. 1-5, 19, 26, 27, 31) is minuscule, with occasional finishing hooks.

N (tab. 6, cols. 2, 3, 10-13, 16, 27, 28, 30, 32, 33) is a regular minuscule.

O (tab. 6, cols. 1-3, 5, 7, 8, 10, 13, 14, 16, 18-20, 22, 24, 27, 28, 30, 32, 37, 39, 42, 44, 48, 57, 58-65) has sides open or closed, sometimes with separate stroke; ligature is by hook, tangent, or separate link stroke.

P (tab. 6, cols. 2-4, 26, 27, 30, 38, 44, 47-50) has folded or looped stem, except when linked with preceding letter through top of bow, where the stem is simple and hooked right; the bow is closed or open.

Q (tab. 6, cols. 3, 16, 42-49) has bow line open or closed upon itself; the tail is oblique or double-curved, hooked left.

R (tab. 6, cols. 1-4, 8-10, 12, 15, 18-20, 47-51) has folded or tied stem, with arm attached in angle, tie, or fold.

S (tab. 6, cols. 2, 4, 7-9, 11-13, 18, 25, 36, 54-57) generally has single-stroke folded stem with arm in curve.

T (tab. 6, cols. 2-5, 7-9, 11, 16, 19, 20, 22-24, 28, 32, 35, 36, 62, 71, 74, 76-80; line *u*, col. 94) has stem and cap variously written with two strokes or joined at left or right end of cap; in ligature with preceding letter, the slurred stem is frequent.

U (tab. 6, cols. 2-6, 11-14, 17, 18, 21-24, 44, 49, 51-55), when



above the line and sometimes when final in ligature, is a simple curve; when in the line, it is regularly minuscule, sometimes slurred.

X (tab. 6, cols. 10, 11, 26, 30-33) is sometimes written with a single stroke joining the two right arms; ligature is through either upper arm.

Y (tab. 6, col. 3) is written with a single stroke.

Z is wanting.

From the mention of Peter, Archbishop of Ravenna (568-574 or 575), the dating may be supplied to read (b, frg. 1, l. 8): [*imp. d. n. Iustino*] *p. p.* [*Aug. anno septimo et p. c. eius secundo anno quarto s. d. . . .*] *ind. quinta*, i.e. 572 A.D.

101. London, British Museum, Add. ms. 5412.

Deed of sale. 8 ft. 6 in. x 1 ft.<sup>98</sup> Published: *Pal. Soc.*, 1, 3, pls. 2 and 28; Marini, no. 120; (Zannetti, *Dichiarazione di un antico Papiro*); (Mabillon, in *Mem. des Inscr. et Belles Lettres* 6, p. 100); *Novv. Tr.*, 5, p. 648; Maffei, *Dipl.*, pp. 163-164; Thompson, p. 214; Reusens, p. 25; Steffens, pl. 19; Wessely, no. 31; Spangenberg, 2, pp. 193-197 (with facs.); Kenyon, *Cat. Grk. Pap.*, CXXXVIII; Monaci, tab. 8.

Ligatures: *a* with *e, f, g, n, q, r, s, t, u, x*; *c* with *c, e, o, t*; *e* with *a, c, d, e, h, i, l, m, n, p, q, r, s, t, u*; *f* with *e, l, r, u*; *g* with *a, e, n, u*; *l* with *e, i, l, u*; *o* with *f, g, l, m, n, q, r, s, u*; *r* with *a, c, e, f, i, m, o, r, t, u*; *s* with *c, e, o, s, t*; *t* with *a, e, g, i, o, q, r, s, u*; *u* with *e, i, o*.

Abbreviations by contraction: *comt*(*comitiacus*), *hhdes*, *hhbus*, *hhbs*(*heredes*, etc.), *monitr*(*monitarii*), *scl*(*scholaris* or *sacrarum largitionum?*), *sstus*, *sscti*, *sstae*, *ssti*, *sso*, *ssto*, *sstrum* (*suprascriptus*, etc.).

A (tab. 6, cols. 1-8, 18, 23, 37, 56, 57, 60, 64, 65, 68) is either open or closed.

B (tab. 6, cols. 5, 16, 24, 28, 46, 53, 59, 60) has stem hooked, bowed, looped, or folded; the bow line stands open or closes either upon itself or upon the stem.

C (tab. 6, cols. 1, 4, 6-8, 15, 17, 18, 36, 40, 52-54) has curve either whole or broken near base.

D (tab. 6, cols. 1, 3, 5, 9, 10, 18, 34, 65) has angular or round bow, open or closed; and stem clubbed, looped, double-looped, or folded.

E (tab. 6, cols. 2, 3, 5, 8, 10, 24, 31, 32, 34, 38, 39, 73-75)

<sup>98</sup> Description from *Pal. Soc.*



shows both the uncial form and the form with arm joined to cap in bow, fold, or loop; the curve is often broken between back and base.

F (tab. 6, cols. 5, 7, 18, 19, 39-42) has simple, folded, or looped stem; often bowed at top to tie with arm.

G (tab. 6, cols. 1, 4, 11, 20, 35, 57, 58) has rough *s* or 3-shaped curve with waved or, in ligature with preceding letter, broken cap stroke.

H (tab. 6, cols. 6, 13, 23, 27, 37, 38) has stem simple, clubbed, bowed, looped, or double-looped.

I (tab. 6, cols. 1, 3, 5, 6, 9, 12, 13, 16, 18, 19, 30, 38, 41, 44, 48, 50, 52-54, 59, 64, 70, 83-85) is hooked left, bowed, looped, or double-looped, at top; and straight or hooked right at bottom.

K is wanting.

L (tab. 6, cols. 12, 13, 24, 33, 55-57, 60, 62, 67) has stem bowed, looped, double-looped, or folded; the base is curved or double-curved.

M (tab. 6, cols. 2, 3, 9, 27, 32) has occasional finishing hooks.

N (tab. 6, cols. 2, 11, 13, 16, 30, 34-36) is a regular minuscule.

O (tab. 6, cols. 5, 11, 14, 16, 19, 33, 58, 59, 63, 66, 67) is an irregular oval, with one or both sides prolonged; ligature is by hook or tangent.

P (tab. 6, cols. 2, 11, 13, 23, 30, 37, 51, 52) has bow closed or open; and stem simple, hooked, clubbed, looped, or folded.

Q (tab. 6, cols. 5, 7, 25, 50, 51, 74) has closed, open, or slurred bow; the tail is regularly oblique left, hooked right more or less elaborately.

R (tab. 6, cols. 3, 4, 6-13, 18-21, 26, 36, 38, 47, 52-56) has stem simple, clubbed, looped, or folded, and joined with arm in curve or angle.

S (tab. 6, cols. 2-4, 7-9, 12, 13, 16, 30, 34, 54, 58-60) has clubbed, looped, or folded stem, with downward curving arm.

T (tab. 6, cols. 2-4, 9-11, 16, 20, 22, 35, 36, 45, 69, 81, 82) has cap stroke either separate or joined at left to stem; ligature with preceding letter is through top of stem, with following, through cap.

U (tab. 6, cols. 1, 2, 6, 8, 13, 17, 18, 20, 21, 24, 25, 37, 38, 40, 44) is minuscule except when written high in the line in ligature with following letter.

X (tab. 6, col. 34) links with preceding letter through lower left arm.

Y and Z do not occur.

The date is (ll. 1-2): *imp d. n. Iustino p. p. Augusto anno septimo et p.c. eius secundo anno quarto sub d. tertio nonarum Iuniarum indictione quinta*, i.e. June 3, 572 A.D.

102. Rome, Vatican.

Conclusion of a will. 121.5 x 29.5-30 cm. Five pieces joined, measuring: 26.5-27.2 cm., c. 25 cm., 24-24.5 cm., c. 23 cm., 23-23.8 cm. Writing across the fibres. Published: Marini, no. 75 and tab. 5; Marucchi, no. 11; Spangenberg, 2, pp. 297-300 (with facs.).

Ten different hands can be distinguished, one of which is in Greek. Ligatures noted: *a* with *b, c, d, e, g, i, l, m, n, p, s, t, u*; *c* with *c, i, l, o, t*; *d* with *e*; *e* with *a, c, d, e, f, i, l, m, n, o, p, r, s, t, u*; *f* with *a, i*; *g* with *a, e, l*; *l* with *e, i, l, n, o, s*; *m* with *c, e*; *o* with *b, g, l, m, n, r, s, u*; *r* with *a, e, f, i, n, o, q, t*; *s* with *c, d, e, o, q, s, t*; *t* with *a, e, h, i, o, q, s, u*.

Abbreviations by contraction: *hhdem* (*heredem*), *Rav-(enna)tem*, *sc*, *sca*, *scam* (*sancta*, etc.), *scrn* (*scriniarius*), *ssta* (*suprascripta*).

A (tab. 6, cols. 1-9, 11, 14, 16, 18, 20, 24-26, 28, 32, 35, 38, 40, 43-45, 60, 64) is open or slurred, or, rarely, closed.

B (tab. 6, cols. 4, 5, 8, 10, 13, 22, 23, 27, 61-63) has stem simple, bowed, or looped; with bow line open or closed either upon itself or upon the stem.

C (tab. 6, cols. 1, 7, 9-11, 13, 17, 23, 26, 36, 44, 50, 53, 55-57) links with preceding letter through base, with following, through either base or cap.

D (tab. 6, cols. 1, 3, 5, 14, 20, 21, 25, 30, 39, 40, 44, 59) has stem regularly clubbed, looped, or double-looped; with open or closed bow.

E (tab. 6, cols. 1-3, 5, 8, 10, 17, 21, 26, 31, 32, 37-40, 42, 47, 75-77) is variously written, with one, two, or three strokes; with arm separate or joined to cap in angle, bow, fold, or loop.

F (tab. 6, cols. 3, 4, 6, 7, 30, 31) has stem folded, clubbed, or looped; with arm in separate stroke or joined to bow of cap.

G (tab. 6, cols. 1, 5, 22, 40, 49, 59-63) has double-curved or 3-shaped tail; the cap is indicated by a waved horizontal topping or intersecting upper curve of tail, or by hook at right;

ligature with following letter is through cap, with preceding, through either cap or upper curve of tail.

H (tab. 6, cols. 1, 3-6, 10, 11, 13, 22-29, 36, 39) has stem simple, bowed, looped, double-looped, or folded.

I (tab. 6, cols. 1, 3-19, 21, 22, 24, 30, 33, 35, 38-50, 54, 56, 59, 61, 68-70, 73, 83, 85, 86) is straight or hooked top right and bottom left; ligature with preceding letter is through hook, fold, loop, or double loop.

K (tab. 6, col. 5) has bowed stem and curved arms.

L (tab. 6, cols. 8, 10, 12, 13, 16, 18, 28, 30, 31, 33, 34, 36, 57, 68) has stem hooked, bowed, clubbed, looped, or double-looped; and angle sharp or rounded.

M (tab. 6, cols. 2-5, 12, 14, 22, 33, 34) is minuscule, with occasional horizontal finial.

N (tab. 6, cols. 2, 8, 10-13, 16, 30, 33, 35) is minuscule.

O (tab. 6, cols. 1, 3-15, 18, 20, 25, 26, 29, 30, 35, 36, 41, 47, 48, 58, 59, 63, 64, 68-70) has its sides, variously, open, closed, sometimes by an additional stroke, or prolonged in tangent, hook, or tie; ligature is through tangent, hook, or tie.

P (tab. 6, cols. 2, 3, 5, 7, 11, 21, 23, 25, 30, 53, 54) has simple, folded, or looped stem; the first sometimes tied with bow and linking through top of bow, the others linking through loop or fold of stem.

Q (tab. 6, cols. 4, 5, 7, 25, 38, 39, 47, 51-55) has bow closed, open, or slurred; and tail oblique or curved left and generally hooked right or left.

R (tab. 6, cols. 1-4, 6-12, 15, 18-21, 25, 27, 28, 36, 38, 47, 49, 52, 57) has stem folded, clubbed, or tied, and joined with arm in curve, angle, tie, or bow.

S (tab. 6, cols. 1-9, 12-14, 17, 33, 45, 51, 56, 59) has stem simple, folded, tied, or looped; with arm continuous upon it or written with separate stroke.

T (tab. 6, cols. 1-11, 19, 20, 23, 26, 28, 31, 35, 38, 45, 57, 68, 71, 83-85) has stem in hook, slurred curve, or oval; in the first two of these forms the cap and stem are often written with a single stroke.

U (tab. 6, cols. 1-6, 11-13, 17, 23, 29, 37, 38, 40, 44, 51) is minuscule, often with a short tail somewhat like y; simple-curve and angle forms are occasional, sometimes written with two strokes.

X (tab. 6, col. 4) has one crossarm double-curved.

Y is wanting.



Z (tab. 6, col. 3) has curved members.

The date is (ll. 31-32, 46-47): *s. d. kal. Aprilium imp. d. n. Iustino p. p. Aug. anno X p. c. eiusdem secund. anno septimo ind. octava*, i.e. April 1, 575 A.D.

103. (a) Paris, Bibliothèque Nationale. (b) Padua, University, Dept. of Archaeology.

(a) The probation of a will, "lungo palmi 17 e mezzo" (c. 285 cm.).<sup>94</sup> (b) Fragment of the same document. 27.5 x 15.5 cm. Writing along the fibres. Published: Marini, no. 74 and tabs. 3, 4; *Nouv. Tr.*, 3, pp. 629-632, 706-711, and pl. 63, I, iv; 4, p. 746 and pl. 74; 5, p. 637 ff.; (*Fasti Patav.*, P. III, p. 410); Champollion-Figeac, fasc. 2, 1 (with facs.); Arndt, tab. 2 (facs.); Spangenberg, 2, pp. 286-297 (with facs.); Wesely, no. 28; Brandi, in *Arch. f. Urk-forsch.* 1, p. 82 and tab. 4; Prou, p. 69.

In the facsimile of (a) four hands are distinguishable. The writing of (b) is uniform. Ligatures: *a* with *a, b, c, d, e, f, g, h, l, m, n, o, p, q, r, s, t, u, x*; *b* with *l*; *c* with *a, c, e, i, l, o, r, t, u*; *d* with *a, c, e, i, m, q, r, u*; *e* with *a, c, d, e, f, g, h, i, l, m, n, o, p, q, r, s, t, u, x*; *f* with *a, e, f, i, l, o, r, u*; *g* with *a, e, i, l, n, o, r, u*; *i* with *l, n, t*; *k* with *a*; *l* with *a, c, e, i, l, m, o, s, t, u*; *n* with *t*; *o* with *a, c, d, e, f, g, h, i, l, m, n, q, r, s, t, u*; *r* with *a, c, d, e, f, g, i, l, m, n, o, p, s, t, u*; *s* with *a, c, d, e, f, g, i, l, o, q, s, t*; *t* with *a, c, d, e, f, g, h, i, l, m, n, o, p, q, r, s, t, u*; *u* with *c, e, i, o, r, s*; *x* with *c*.

Abbreviations by contraction: *clm* (*clamator?*), *ql* (*quinquennalis*), *rg* (*rogatarius?*). Punctuation(?) marks: two dots (col. 3, l. 8).

A (tab. 6, cols. 1-9, 11, 14, 16, 18, 23-25, 28, 29, 32, 35, 37, 38, 44, 54-56, 60, 62-64, 67-70) is closed, open, or, as often in ligature, slurred; ties are not infrequent.

B (tab. 6, cols. 5, 8, 24, 25, 29, 31, 46, 48, 52, 64-68) has stem simple, with or without hook, bowed, looped, double-looped, or folded; the bow line is closed or open, sometimes finished with tie; the older form with bow at left occurs in ligature with following letter.

C (tab. 6, cols. 1, 3-9, 12, 13, 17, 26, 29, 36, 38, 42, 44, 50, 51, 58, 59) is generally broken near base; ligature with following letter is through either cap or base.

<sup>94</sup> Description by Marini. Studied in Champollion-Figeac's facsimile.



D (tab. 6, cols. 1, 3, 5, 18, 20-22, 25-27, 39, 40, 54, 56, 66, 67, 69) shows the usual looped, clubbed, or folded stem, with open or closed bow; and, occasionally, the simple-stem form linked by loop or hook at top with preceding letter, at bottom with following.

E (tab. 6, cols. 1-3, 5-8, 12, 14-16, 19, 21, 22, 25, 31, 32, 37, 39, 41, 60, 63, 67, 68, 78-80) has curve full, or broken high or low in the back; the arm is written with separate stroke or joined with upper part of curve, bow, fold, or loop; occasional forms link with preceding letter at bottom of back and lack base.

F (tab. 6, cols. 3, 5, 7-9, 17, 29, 37) has stem looped or folded, and arm separate or combined with bow or fold of cap.

G (tab. 6, cols. 1, 3, 7, 10, 12, 17, 50, 64-69) has double-curved or 3-shaped tail, sometimes linking with preceding letter by hook or tie, and full or diminished cap stroke in the various positions.

H (tab. 6, cols. 6, 17, 34, 40-45) has stem curved, hooked, bowed or looped either side, or double or triple-looped; unusual are forms with stem broken into two strokes (col. 44).

I (tab. 6, cols. 1, 3, 5, 6, 8-12, 18-21, 29, 30, 35, 38-41, 44-46, 48, 50, 52, 53, 59-61, 64, 66, 69, 70, 72, 74, 76, 83, 84, 87-94), at top, is straight, hooked or bowed left, looped, or double-looped; at bottom, straight or hooked, generally right; unusual are ligatures with following letter.

K (tab. 6, col. 6) has upper part of stem and upper arm written with one stroke, lower part of stem and lower arm, with second stroke and linking with following letter.

L (tab. 6, cols. 7-9, 11-13, 16, 30, 33, 57-60, 69-75) has stem bowed or looped either side, double-looped, or folded; peculiar is the form with broken stem.

M (tab. 6, cols. 1-5, 7, 12, 16, 20, 27, 35-37) has occasional ties and more or less elaborate finials.

N (tab. 6, cols. 2, 3, 10, 11, 13, 16, 21, 23, 30, 34, 37-39) is minuscule, with occasional ties.

O (tab. 6, cols. 1-5, 7, 8, 10, 13, 14, 29, 31, 33, 41, 43, 44, 57, 71-75) links through tangent, or through hook of side or tangent.

P (tab. 6, cols. 2, 4, 5, 11, 16, 27, 30, 47, 51-54, 58) has stem simple, bowed, folded, or clubbed; all forms are frequent in ligature.

Q (tab. 6, cols. 1, 2, 10, 12, 13, 25, 27, 36, 39, 42, 43, 55-

63) has open or closed bow, with tail oblique left, sometimes with right hook.

R (tab. 6, cols. 1-6, 8-12, 15, 18-21, 49, 52, 57-59) has stem clubbed, tied, looped, or folded, and joined with arm in angle, curve, or tie.

S (tab. 6, cols. 2-5, 8, 9, 12-14, 17, 21, 33, 34, 40, 44, 54, 56, 61-64) has stem clubbed, tied, looped, or folded.

T (tab. 6, cols. 2-13, 16, 17, 19, 20, 22-24, 26, 28, 29, 31-33, 35, 36, 38, 45, 47, 56, 57, 64, 68, 71, 74-76, 85-92) has stem and cap more or less elaborately curved, the left hook of cap often meeting or even intersecting the stem; the two are often combined in a double curve (col. 91) or loop resembling *o*; the slurred stem is regular in ligature with preceding letter.

U (tab. 6, cols. 2-6, 9, 11-13, 17, 18, 21-23, 25, 37, 40, 51-53, 56-65) shows the regular minuscule form, sometimes with tail like *y*, and, occasionally, the simple-curve form when final in ligature or when written above the line.

X (tab. 6, cols. 10, 11, 26, 30, 35, 36) has regular curves and finishing hooks; single-stroke forms, with right arms joined, are occasional.

Y (tab. 6, col. 1) is a single-stroke cursive.

Z is wanting.

The approximate date is (col. 6, ll. 12-13): *imp. d. n. Iustiano p. p. Aug. anno XXV undecies p.c. Basili Iun. v.c. s.d. III nonar. Ianuariar.*, i.e. 552 A.D.<sup>n</sup>

104. Lost.<sup>o</sup> Deed of gift.

Published: Marini, no. 89 (who copies from *Annalisti Camaldolesi*, who, in turn, from a *Codex di Casa Frangipane*).

105. Lost.<sup>p</sup> Papal document.

106. Rome, Vatican.

Deed of sale. 211.5 x 26-32 cm. 10 pieces joined, measuring: 23 cm., 20 cm., 23 cm., 22 cm., 20.5 cm., 21.5 cm., 21.5 cm., 21 cm., 19.5 cm., 20 cm. Writing across the fibres. Pub-

<sup>n</sup> Marini, note 63, gives a *terminus ante quem*—"Tommaso, il qual è forse quel medesimo, che nel seguente dell' A. 575 ricordasi già morto."

<sup>o</sup> "Una volta in Roma nel Mon. di S. Andrea ad Clivum Scauri." "Anno 587"—Marini.

<sup>p</sup> "in S. Gregorio al Clivo di Scauro." "circa 590"—Marini, no. 2.

lished: Marini, no. 122; Maffei, *Dipl.*, p. 55, p. 165; *Nouv. Tr.*, 5, p. 649; Marucchi, no. 7; Spangenberg, 2, pp. 201-204 (with facs.).

Ligatures: *a* with *a, b, c, d, e, f, g, i, l, m, n, q, r, s, t, u, x, z*; *c* with *a, c, e, i, o, t, u*; *e* with *a, c, d, e, f, g, h, i, l, m, n, o, p, q, r, s, t, u, x, z*; *f* with *a, e, i, o, u*; *g* with *a, e, i, m, n, o, r*; *i* with *d, g*; *l* with *a, e, i, l, q, u*; *o* with *b, c, d, e, f, g, h, i, l, m, n, p, q, r, s, u*; *r* with *a, b, c, e, i, m, o, p, r, t, u*; *s* with *c, d, e, f, o, p, q, s, t, u*; *t* with *a, c, d, e, f, h, i, l, n, o, p, q, r, s, t, u, z*; *u* with *e*; *x* with *i, t*.

Abbreviations by contraction: *dln* (*dolum malum*), *dn* (*dominus*), *hhdes*, *hhdibus* (*heredes*, etc.), *scae* (*sanctae*), *sstum*, *ssto*, *ssti*, *ssta*, *sstorum*, *sstis*, *sstas* (*superscriptum*, etc.).

A (tab. 6, cols. 1-8, 10-12, 14, 16, 18, 23, 24, 28, 32, 33, 35, 37, 38, 42-46, 51, 53-56, 65, 71-73) is closed, open, or often, when linked high in the line, slurred; ties are occasional.

B (tab. 6, cols. 5, 10, 23, 27, 31, 66, 67, 69, 70) has bow always at right; and stem bowed, clubbed, looped, or folded.

C (tab. 6, cols. 1, 3-7, 10, 15, 17, 21, 22, 27, 36, 43, 53-55) has curve full, or broken high or low in back; ligature with following letter is through either cap or base.

D (tab. 6, cols. 1, 5, 6, 10, 14, 15, 18, 20, 21, 27, 28, 30, 34, 40, 41, 43, 54, 56, 67, 70, 71) has bow open or closed; and stem clubbed, looped, double-looped, or folded.

E (tab. 6, cols. 1-12, 15, 16, 20, 21, 24, 26, 31, 32, 36-41, 47, 53, 62, 67, 68, 73, 76, 81-85) has curve full or broken; the arm is added with separate stroke or combined with cap in angle, bow or bow and tie, loop, clubbing, or fold.

F (tab. 6, cols. 3, 6-9, 17, 20, 29, 35, 51) has stem looped, clubbed, or folded; with arm in separate stroke or joined to bow, clubbing, or fold of cap.

G (tab. 6, cols. 1, 3, 5, 6, 8, 9, 12, 20, 23, 34, 36, 42, 43, 46, 54, 70-74) has tail consisting of oblique and curve or of tangent curves; with full or diminished cap stroke.

H (tab. 6, cols. 3, 6, 7, 9, 22, 24, 25, 27, 33, 34, 38) has stem hooked, folded, bowed or looped either side, or double-looped.

I (tab. 6, cols. 1, 3, 5-8, 11-21, 23-25, 30-32, 35, 38-41, 44-48, 50, 52, 54, 56, 59, 60, 62, 70, 71, 78, 86, 95, 96) is straight, hooked or bowed left, looped, or double-looped, at top; straight or hooked either side at bottom.

K is wanting.

L (tab. 6, cols. 1, 6, 12-18, 25, 30, 33-35, 57, 58, 61, 62) has



stem straight, hooked left, bowed, clubbed, looped either side, double-looped, or folded.

M (tab. 6, cols. 1, 2, 4, 5, 14, 23, 27, 38, 40) has occasionally a horizontal finial hooked down.

N (tab. 6, cols. 2, 3, 8, 10-13, 16, 23, 30, 33, 36, 40) is a regular minuscule.

O (tab. 6, cols. 1-3, 6, 7, 9-12, 14-16, 20, 24, 30, 31, 35, 39, 42, 44, 67) has sides open, closed, or intersecting; with occasional finishing hooks; ligature is by hook or prolongation of sides.

P (tab. 6, cols. 2-6, 9, 11, 23, 27, 30, 31, 33, 37, 43, 47, 54-57) has stem simple, clubbed, looped, or folded; simple stem forms link through top of stem or bow; doubled-stem forms, through left member of stem.

Q (tab. 6, cols. 2, 4, 5, 13, 20, 24, 35, 51, 53, 56, 62-64) has bow open or closed; with tail oblique left, sometimes hooked right.

R (tab. 6, cols. 2-4, 6-13, 15, 16, 18-22, 24, 27, 28, 30, 31, 36-38, 47, 49, 63) has stem clubbed, tied, or folded, and joined with arm in angle, curve, tie, or fold; when the letter stands alone, the arm is sometimes prolonged and finished with downward hook.

S (tab. 6, cols. 1-9, 12-14, 16, 17, 21, 24, 25, 35, 42, 43, 54, 56, 57, 65, 66) has simple, clubbed, looped, or folded stem; with arm sometimes in separate stroke.

T (tab. 6, cols. 2-4, 7-11, 13, 14, 16-20, 22, 23, 26, 28, 31, 32, 35-38, 45-48, 57, 71, 74-76, 83, 85, 93) has stem hooked, bowed, or slurred; cap is hooked down at left and up at right, except when linked with following letter; stem and cap are often combined through left hook of cap or right hook of stem.

U (tab. 6, cols. 1-6, 9, 12-14, 17, 18, 20-25, 37, 38, 40, 44, 53, 65, 66) shows simple angle or curve sometimes when final in ligature, simple curve when written above the line, otherwise minuscule forms with short or long tail.

X (tab. 6, cols. 8, 16, 24, 26, 30, 37) has crossarms hooked; the lower left arm hooks either side; ligature with preceding letter is through either left arm, with following letter, through upper right arm.

Y (tab. 6, col. 4) is a single-stroke cursive, hooked on both sides.

Z (tab. 6, cols. 5, 7-10) has cap straight or curved, and base running downward in single or double curve.



The date (l. 1): *imp. dn. n. Mauricio Tiberio p. p. Aug. anno nono p. c. eiusdem anno octab(o) [su]b d. sexto iduum Martiarum ind. nona*, i.e. March 10, 591 A.D.

107. Norfolk, Didlington Hall, Amherst Collection, Papyrus 150.

Provenance Oxyrhynchus. Receipt in Greek with signature in Latin. 3.12 x 11.5 cm.<sup>95</sup> Published: Grenfell and Hunt, *Amherst Papyri*, 2, no. CL, with facsimile.

Ligatures: *a* with *m*, *n*; *d* with *a*; *e* with *l*, *m* (?), *t*; *l* with *i*; *n* with *e*; *t* with *h*.

A (tab. 6, col. 56) is a slurred minuscule.

B and C are wanting.

D (tab. 6, cols. 40, 72) has simple or clubbed stem.

E (tab. 6, cols. 7, 8, 21, 62) has full or broken curve, combined with arm in fold or bow.

F and G are wanting.

H (tab. 6, cols. 17, 25) has simple or clubbed stem.

I (tab. 6, cols. 1, 3, 13, 19) is hooked left at top and is straight or hooked right at bottom.

K is wanting.

L (tab. 6, col. 54) has simple stem.

M (tab. 6, col. 2) is a regular minuscule.

N (tab. 6, col. 17) is minuscule, peculiarly linked with following letter.

O (tab. 6, col. 1) is a closed oval.

P, Q, R, and S are wanting.

T (tab. 6, cols. 19, 57) has hooked or slurred stem.

U, X, Y, and Z are wanting.

The date is (ll. 1-6): [Βασιλείας τοῦ θειοτάτου καὶ εὐσεβεστ]δ[του ἡμῶν Φλαουίου] Μ[α]υρικίου [Τι]βερίου τοῦ αἰ[ω]ν[ίου] Αὐγούστου] καὶ αὐτοκράτορος ἔτους ιᾱ ὑπατε[ίας τοῦ] αὐτοῦ εὐσεβεστάτου ἡμῶν δεσπό[του] [τὸ] ῑ φαῶφῑ κγ̄ ἰνδ(ικτίονος) ιᾱ, i.e. Sept. 28-Oct. 27, 592 A.D.

108. Monza, Cathedral.

Account of oils from lamps of martyrs. c. 33 x 23 cm. ("alto circa un palmo e mezzo, e largo onc. 14"—Marini). Published: Marini, no. 143; Steffens, ed. 1, pl. 22.

The writing is perhaps more nearly the literary semi-cursive than the documentary cursive. Ligatures: *a* with *e*, *l*, *m*, *n*, *p*,

<sup>95</sup> Studied in facsimile.

*r, s, t, u, x; c* with *i, o, r, u; e* with *a, c, g, i, m, n, o, p, s, t, u; f* with *i; g* with *n, o, r; k* with *i; o* with *l, m, n, r, t; r* with *e, i, n, o, t, u; s* with *c, e, i, s, t, y; t* with *a, h, i, p, r, s.*

Abbreviations by contraction: *prb* (*praesbyter*), *sci, sce, sc, scor, scorum* (*sancti*, etc.).

A (tab. 6, cols. 3-5, 7, 11, 13, 22, 35, 36, 43-45) is an open, more or less angular minuscule, occasionally with long finials; occasionally written with two strokes.

B (tab. 6, cols. 9, 39, 70-72) has simple, nearly vertical stem, occasionally hooked or clubbed; the bow line is open, tied right or hooked inward.

C (tab. 6, cols. 3-6, 9, 11, 17, 18, 21-23, 60, 61) is often small and nearly round, sometimes angular, sometimes broken at middle of back; linking with preceding letter through lower curve, with following, through cap.

D (tab. 6, cols. 14, 21, 36, 40, 73-75) has vertical stem, simple or clubbed; and open or closed bow.

E (tab. 6, cols. 2, 7, 8, 10, 15, 16, 24, 25, 38, 40, 41, 53, 61) is frequently nearly round, with arm separate or joined to bow of cap; forms broken at base may link with preceding letter.

F (tab. 6, cols. 7, 43-45) has clubbed stem; the arm is either joined with bow of cap or drawn across the stem.

G (tab. 6, cols. 7, 35, 71, 75) has double-curved or angular tail, with straight or slightly curved cap stroke.

H (tab. 6, cols. 6, 7, 25, 33) has stem simple, hooked, clubbed, or double-looped.

I (tab. 6, cols. 1, 3, 14, 17, 18, 20, 21, 24, 26, 35, 38-40, 48, 50, 55, 56, 96; line *k*, cols. 85-87) shows most frequently simple or clubbed stem, variously hooked and curved; occasional loops and double loops are somewhat compressed in this as in other letters in this ms.

K does not occur.

L (tab. 6, cols. 2, 8, 9, 14, 34, 35, 46, 47, 75) has stem straight, hooked, clubbed, looped, or double-looped; the angle is either rounded or sharp.

M (tab. 6, cols. 1, 2, 5, 12, 17, 33) is a regular minuscule.

N (tab. 6, cols. 7, 32, 41-44) shows an initial capital letter, beside the minuscule forms, some of which are rather square or angular.

O (tab. 6, cols. 1, 2, 5, 7, 8, 14, 39, 67, 76-78) has sides open, closed, or crossed; and links by hook or tangent.

P (tab. 6, cols. 5, 7, 11, 13, 30, 46, 58-62) has simple or clubbed stem, and open bow; in ligature with preceding letter, the stem is either tied with bow or written with separate stroke.

Q (tab. 6, cols. 5, 35, 56, 65, 66) has the starting point of its curve at either top or bottom of bow, which is often closed; the tail is vertical, or slightly oblique left, straight or hooked.

R (tab. 6, cols. 3, 9, 11, 12, 15, 18, 21, 29, 62, 63) has stem folded, or, in occasional two-stroke forms, simple; with either round or pointed shoulder.

S (tab. 6, cols. 1, 2, 6, 8-10, 12, 18, 21, 37, 43, 60, 67, 68, 76) has, like *r*, both single-stroke and two-stroke forms, with narrow angle in the folded stem.

T (tab. 6, cols. 3, 4, 9, 10, 14, 31, 36, 69, 75, 81, 94) has waved or hooked cap stroke and, in ligature, frequently the slurred stem.

U (tab. 6, cols. 2, 9, 13, 16, 17, 20, 30, 37, 44, 53, 66, 67), written in the line, is generally a single or two-stroke minuscule; written above the line, the narrow, horizontally placed, simple curve.

X (tab. 6, cols. 20, 34, 39) shows double curves in one or both crossarms.

Y (tab. 6, cols. 1, 4, 5) has its curving sides joined at vertex of angle in a short clubbed stem.

Z does not occur.

"Aus den Schlussworten, wo gesagt wird, Johannes habe die Öle zur Zeit des Papstes Gregor von Rom gebracht, erhellt, dass der Papyrus nach dem Tode jenes Papstes (†604) geschrieben ist"—Steffens.

109. (a) London, British Museum,<sup>a</sup> Pap. CXII. (b) Rome, Vatican.<sup>r</sup> (c) Padua, University, Dept. of Archaeology. (d) *Ibid.* (e) Location?<sup>s</sup>

Deed of sale. (a) (b) 21-23 x 30.5-33 cm. Writing across the fibres. (c) 22.5 x 32.5 cm. Writing along the fibres. (d) 20.5 x 32 cm. Writing along the fibres. Published: Marini, no. 123; Maffei, *Dipl.*, p. 173; *Cod. Ottobon.*

<sup>a</sup> "Venezia, presso il Sig. Ab. Canonici"—Marini.

<sup>r</sup> "Mantova, Casa i conti Nigrisoli"—Marini.

<sup>s</sup> "fu del Valisnieri"—Marini.

3168, fol. 134; Spangenberg, 2, p. 205 (with facs.); Kenyon, *Cat. Grk. Pap.*, CXII; Bond, *Facs. anc. charters*, pt. 4.

Letters at ends of lines are occasionally finished with flourish. Ligatures noted: *a* with *b, c, d, e, f, h, l, m, n, r, s, t, u*; *c* with *a, e, i, o, t, u*; *e* with *b, c, d, e, g, h, i, l, m, n, o, p, q, r, s, t, u, x*; *f* with *a, e, u*; *g* with *a, e, i, r, u*; *l* with *a, e, i, l, m, o, r*; *o* with *e, r, u*; *r* with *a, d, e, f, h, i, o, s, t, u*; *s* with *c, e, o, p, q, s, t, u*; *t* with *a, c, d, e, f, i, o, p, q, r, s, u*.

Abbreviations by contraction: *hhbus*(*heredibus*), *ssto*, *sstae*, *sstas* (*suprascripto*, etc.). A colon occurs in ll. 25, 26, 42.

A (tab. 6, cols. 1-6, 9, 12, 23, 38, 42, 43, 51, 70, 72, 74) is regularly open minuscule, occasionally with long horizontal finial.

B (tab. 6, cols. 16, 22, 33, 50, 73-77) has stem folded either side, looped, or double-looped, and frequently broken near bottom; the bow line is generally closed upon itself.

C (tab. 6, cols. 3-7, 10, 17, 18, 21, 22, 36, 43, 54) has curve full, or, more often, broken near base or cap; ligature with following letter is through either cap or base.

D (tab. 6, cols. 1, 3, 5, 6, 20, 28, 56, 59, 76, 77) has stem looped, double-looped, clubbed, or folded; the bow is open and is often somewhat angular.

E (tab. 6 cols. 1-3, 5-8, 10, 12, 15, 16, 21, 22, 27, 31, 37-39, 41, 47, 55, 67-69, 73, 85) is generally broken at middle or bottom of back; and has arm joined with cap in angle, clubbing, fold, bow, or loop.

F (tab. 6, cols. 3, 4, 6-9, 17, 29, 47) has stem clubbed, looped, or folded; and arm in separate stroke or joined with bow of cap.

G (tab. 6, cols. 1, 10, 49, 76-78) has tail in a wide double curve or in 3-shape; with cap written over or across, or indicated at right by short straight stroke or hook.

H (tab. 6, cols. 6, 10, 15, 24) has stem looped or double-looped.

I (tab. 6, cols. 1, 3-6, 9-13, 18, 19, 21, 24, 30, 38, 40, 44, 45, 47, 50, 52, 60, 69, 73, 83, 86; line *k*, cols. 88, 89) is straight, hooked or bowed left, double-looped, or folded, at top; and straight or hooked right at bottom.

K is wanting.



L (tab. 6, cols. 6, 12-16, 29, 31, 62-64, 68) has stem straight, bowed, looped, double-looped, or folded.

M (tab. 6, cols. 2, 4, 5, 14, 18, 27, 34, 42, 43) has generally an initial hook; the last member bends slightly inward.

N (tab. 6, cols. 8, 10, 12, 13, 16, 21, 27, 28, 30, 33, 45, 46) has initial hook, and last member curved inward.

O (tab. 6, cols. 1, 5, 8-10, 19, 24, 35, 39, 58, 59, 73, 75, 79, 80) frequently has one or both sides prolonged upward beyond their meeting point; ligature is by tangent or hook.

P (tab. 6, cols. 11, 21, 30, 31, 37, 44, 63-65) has somewhat angular bow; the stem is simple and hooked; or is folded, clubbed, or looped; ligature is through top of bow or left hook of doubled stem.

Q (tab. 6, cols. 39, 67-70) has open or closed, round or angular bow; the tail is straight or double-curved, and hooked right.

R (tab. 6, cols. 2-4, 8-12, 18-20, 25, 47, 52, 55, 56) has stem folded, clubbed, or tied; and joined with arm in angle or tie; an initial hook is frequent when the letter is not linked with preceding letter.

S (tab. 6, cols. 1-4, 6, 9, 12-14, 19, 35, 36, 43, 44, 47, 70) has stem clubbed, tied, or folded, and joined with arm in curve or angle; initial hooks occur where the letter stands alone or initial in ligature.

T (tab. 6, cols. 4, 5, 8, 9, 11, 19, 20, 23, 27-29, 31, 32, 35, 36, 75, 80, 90) has stem hooked, bowed, or slurred; the cap stroke curves inward at left, sometimes meeting the stem, or is continuous upon right hook of stem.

U (tab. 6, cols. 4, 5, 8, 10, 17, 21, 22, 37, 40, 44, 52, 65, 68), except when written above the line, is a regular minuscule, generally with slight final hook.

X (tab. 6, cols. 25, 40) has regularly double-curved cross-arms.

Y and Z are wanting.

Date c. 616-619 A.D.<sup>†</sup>

110. Rome, Vatican.

Will. 30-30.5 x 52-53 cm. Three fragments joined together in the wrong order, measuring in width: c. 17 cm., 20

<sup>†</sup> "il tempo sarebbe incerto, se non ci fosse pervenuto il primo pezzo col nome dell' Esarca di Ravenna Eleuterio, che fu in tal dignità dall' A. 616 al 619"—Marini.

cm., 14.5-17 cm. Writing along the fibres. Published: Marini, no. 94; Grimaldi, in *Cod. Vat. 6064*, fol. 22<sup>v</sup>-23<sup>v</sup> (29<sup>v</sup>-30<sup>v</sup>); Gori-Doni, p. xxv, p. 489, no. 8; (Allatius, *Animadv.*, p. 82); Marucchi, no. 5; Spangenberg, 2, p. 262 (with facs.).

Ligatures noted: *a* with *c, d, e, i, m, n, p, r, s, t, u*; *c* with *a, c, e, i, o, s, t, u*; *e* with *a, c, d, e, g, i, l, m, n, o, p, q, r, s, t, x*; *f* with *a, e, f, i, u*; *g* with *a, e, i, n, r*; *i* with *o*; *l* with *a, e, i, l, o, t, u*; *o* with *g, p, q, r*; *r* with *a, e, g, i, n, o, p, t, u*; *s* with *c, e, i, p, s, t, u*; *t* with *a, e, i, m, o, q, r, t, u*.

Abbreviations by contraction: *sca, scae, sci(sancta, etc.)*.

A (tab. 6, cols. 1-5, 11, 14, 21, 22, 25, 43-46, 70, 75-77) is open or partially closed.

B (tab. 6, cols. 3, 5, 9, 78, 79) has stem straight, clubbed, bowed, or tied; and bow nearly or entirely closed.

C (tab. 6, cols. 3-10, 12, 13, 17, 29, 36, 40, 54, 55, 62) has curve full or broken near base; ligature is through either base or cap.

D (tab. 6, cols. 1, 3, 5, 20, 21, 28, 34, 73, 77-79) is written either with two strokes, simple stem with finishing hooks, or with one stroke, stem looped, clubbed, double-looped, or folded.

E (tab. 6, cols. 1, 2, 5-8, 10, 12, 14-16, 21, 32, 37, 41, 63, 67, 68, 76, 87-89) has curve generally broken high or low in the back; the arm is either written with separate stroke or joined with cap in angle, fold, bow, or clubbing.

F (tab. 6, cols. 9, 20, 35) has stem folded, and arm either written separately or joined to bow of cap.

G (tab. 6, cols. 1, 8, 9, 29, 77, 79, 80) has tail in double curve, broken line, or oblique and curve; the transverse is divided, or tops or intersects the tail.

H (tab. 6, cols. 17, 18, 24, 39) has stem curved, hooked, tied, looped, or double-looped.

I (tab. 6, cols. 1, 3, 6, 8-11, 13-16, 19, 24, 28, 30, 35, 38-40, 44, 45, 47, 48, 50, 52, 83; line *k*, cols. 90-92) is straight, hooked left, bowed right or left, double-looped, or folded, at top; at bottom, oblique or curved left, and often hooked right or left; peculiar is the ligature with following letter by loop at bottom.

K is wanting.

L (tab. 6, cols. 5, 6, 9, 12-18, 30, 35, 36, 50, 56, 57, 68) has stem straight, hooked left, folded right or left, bowed, looped right or left, or double-looped.

M (tab. 6, cols. 2, 4, 5, 10, 14, 27) is minuscule, generally with initial hook.

N (tab. 6, cols. 11, 13, 16, 28, 30, 47-49) often has initial hook.

O (tab. 6, cols. 1, 5, 18, 24, 26, 35, 48, 64, 81-83, 85), when standing alone, shows oval forms, written with one or two strokes, often finished with tie, resembling certain forms of *a* and *u*; ligature is sometimes by hook, oftener by tangent.

P (tab. 6, cols. 5, 7, 8, 11, 27, 53, 66-69) generally has simple stem, in ligature forms sometimes not tied with bow; folded stems are occasional.

Q (tab. 6, cols. 4, 7, 12, 13, 25, 36, 38, 55, 62, 63, 66) has open, slurred, or closed bow; the tail is straight or hooked right.

R (tab. 6, cols. 3, 4, 6, 7, 9, 15, 18-20, 25, 49) has stem folded and joined with arm in curve, angle, or fold.

S (tab. 6, cols. 1, 2, 4, 8, 9, 11-13, 16, 17, 34, 38, 59, 60, 71-74) has stem folded or clubbed.

T (tab. 6, cols. 3-11, 14, 16, 19, 20, 23, 28-30, 32, 35, 36, 45, 47, 48, 57, 68, 75, 76, 81, 85, 95, 96) has widely curved stem and cap, sometimes joined through hook of stem; ligature with preceding letter is through top of vertical or slurred stem.

U (tab. 6, cols. 1, 2, 6, 8, 13, 17, 18, 24-26, 37, 38, 67, 69) is generally minuscule, but shows the simple-curve form when initial in ligature and occasionally when standing alone; when final in ligature, it is sometimes written with two strokes.

X (tab. 6, cols. 6, 41) has occasional finishing hooks.

Y and Z are wanting.

The date is (l. 9): [*impp.*] *dd. nn.* [*p.*] *p. Augg. Heraclio anno quintodecimo et p.c. eiusdem anno quarto decimo atque Heraclio novo Constantino filio ipsius an[no] t[ertio]decimo*], i.e. 625 A.D.

### III. Ravenna, Archivio Arcivescovile.

Deed of gift. Two fragments. (a) 112.5 x c. 32 cm. 5 pieces joined, each measuring about 23-23.5 cm. (b) 55 x 32 cm. 2 jointures. Published: Marini, no. 95 and tab. 14; Maffei, *Verona illustr.*, 1, p. 290, p. 371; *Id.*, *Dipl.*, p. 56, p. 169; (Zinnanni, *Sopra lo Scirpo Ravennate*, p. 140).

The writing is in five different hands. Ligatures noted: *a* with *b, c, d, e, l, m, n, p, r, t, u*; *c* with *c, e, i, l, o, p, r, t, u*; *e* with *b, c, d, g, i, l, m, n, o, p, r, s, t, u, x*; *f* with *a, e, i, o*,



*u*; *g* with *a, e, i, o, r*; *l* with *a, e, i*; *o* with *b, g, m, n, r*; *p* with *r*; *r* with *a, b, e, f, i, m, o, p, r, t, u*; *s* with *c, e, g, s, t*; *t* with *a, e, h, i, m, r, s, t, u*.

Abbreviations by contraction: *dicto* (*dicto*), *prm* (*primicerius*), *sca*, etc., *ssta*, etc.

A (tab. 6, cols. 1-7, 9-14, 16, 18, 20-25, 30, 34, 35, 38, 40, 42-46, 65, 66, 70-72, 78-81) is closed, open, or, sometimes when written high in the line, slurred.

B (tab. 6, cols. 3, 5, 8, 10, 13, 16, 17, 20, 23, 27, 29, 31, 51, 52, 79-82) has stem simple, bowed, looped, double-looped, or folded; the bow line is open or closed either upon itself or upon the stem; ligature is occasionally through top of bow.

C (tab. 6, cols. 1, 3-7, 9, 11, 13, 17, 18, 21-23, 25, 26, 34, 38, 40, 55, 63-65) is generally broken or angular at base, or is sometimes composed of two tangent curves like a reversed figure 3; ligature is through either base or cap.

D (tab. 6, cols. 1, 3, 5-7, 9, 14-16, 20, 24, 40, 48-50, 70, 77-83), often written with two strokes, has stem hooked, tied, clubbed, looped, double-looped, or folded; a right hook at bottom of stem is occasional.

E (tab. 6, cols. 2, 3, 5-8, 10-12, 14-16, 20, 21, 27, 32, 36-39, 41, 60, 63, 67, 68, 88, 90-92) has curve full or broken near base; the arm is written with separate stroke or joined with the variously formed cap.

F (tab. 6, cols. 3, 6, 7, 9, 20, 30, 35, 47-49) has folded or looped stem; the arm is written with separate stroke or is attached to bow of cap.

G (tab. 6, cols. 30, 49, 53, 80-87) has tail in double curve, oblique and curve, tangent curves, or circle above curve; with occasional loops at either end or at middle; the transverse, sometimes diminished, tops or intersects the tail.

H (tab. 6, cols. 1, 3, 4, 7, 8, 11, 15, 18, 26, 46-48) has stem simple, hooked, folded, bowed, or looped.

I (tab. 6, cols. 1, 3, 5, 6, 8, 9, 14-16, 19, 21, 26, 28, 30, 35, 38-40, 44, 46, 50, 52, 56, 59, 60, 73, 78, 86; line *k*, cols. 87, 92-95) at top is straight, hooked or folded left, bowed right or left, or looped; at bottom, straight or hooked right or left.

K is wanting.

L (tab. 6, cols. 3-9, 11-15, 23, 28-30, 57, 58, 65, 66, 76) has stem hooked left, folded right or left, bowed, looped, or double-looped, and, occasionally, broken near base.



M (tab. 6, cols. 2, 4-6, 9, 12, 20, 32, 38) frequently has initial and final hooks.

N (tab. 6, cols. 2, 3, 11-13, 16, 20, 21, 27, 30, 32, 35, 37, 44-47, 50) frequently has initial hook.

O (tab. 6, cols. 1, 2, 5, 10, 14, 16, 18, 19, 24, 25, 29, 34, 35, 39, 42, 44, 46, 58, 63, 68, 70, 76, 82-84, 86-90) is closed or open, in the latter form frequently hooked or tied with short tail, and so resembling *u*; ligature is by hook or tangent.

P (tab. 6, cols. 5, 7, 8, 11, 16, 19, 21, 23, 44, 53, 66, 70-74) has simple stem, straight or hooked right at base; ligature with preceding letter is either through top of stem or through top or bottom of bow, with following, by hook of bow.

Q (tab. 6, cols. 5, 12, 28, 39, 62, 66, 71-73) has bow open, hooked out or in, or closed; and tail straight or curved left and often hooked right.

R (tab. 6, cols. 3-13, 15, 18-20, 22, 25, 30, 33, 37, 38, 47, 49, 52, 55, 64-67) has clubbed, folded, tied, or looped stem, joined with bow in angle, curve, tie, or loop.

S (tab. 6, cols. 1-4, 8, 9, 11-14, 16-19, 21, 27, 33, 34, 36-38, 41, 51, 59, 60, 66, 72, 74, 75) has stem folded or looped; or, when written with two strokes, simple and not joined with arm.

T (tab. 6, cols. 1, 4, 7-11, 16, 17, 19, 20, 22, 23, 28, 29, 32, 33, 35, 36, 45, 47-50, 56, 57, 59, 69-71, 73, 75, 76, 81, 85, 90, 96; line *u*, cols. 93, 94) has hooked members, the hook of cap often meeting base or top of stem; in many forms hook of stem joins left end of cap; the stem is frequently slurred in ligature.

U (tab. 6, cols. 1-3, 5, 8, 11-13, 15-17, 20, 25, 37, 39, 40, 44, 51, 54, 64, 65, 68, 70, 71) has occasional ties and initial or final hooks; the tail is sometimes long.

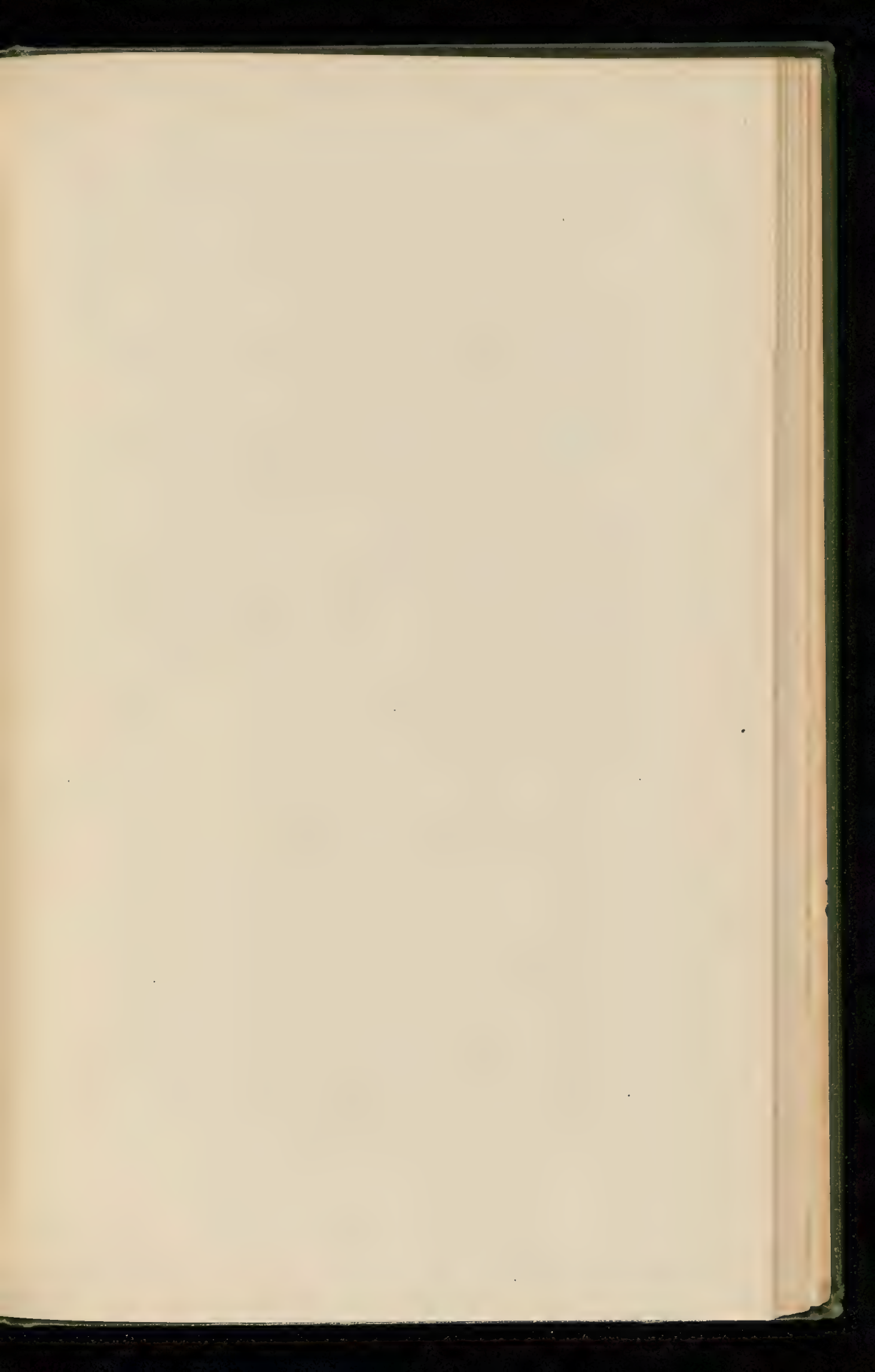
X (tab. 6, cols. 6, 42) has slightly curved or hooked members.

Y and Z are wanting.

The date is (ll. 61-62): --- *in mense Nobembrio i. octava die secunda fir. imp. dd. nn. Her[a]clio Mai. imp. anno tricesimo ind. tertiadec.*, i.e. Nov. 8, 639 A.D.

#### 112. Location?"

<sup>u</sup> "Confessio Genechiselo." "Parigi, Archivio Sandionisiano"—"Anno 655"—Marini, no. 145. Cp. Mabillon, *Ann. Benedict.*, Bk. 14, no. 34, App., no. 20.





113. Location?"

Published: Marini, no. 131 and tab. 20; Lupi, *Cod. dipl. Berg.*, 1, p. 415 and tab. p. 405; Spangenberg, 2, p. 316 (with facs.).

Ligatures: *a* with *c, e, m, n, r, u*; *c* with *a, t*; *e* with *a, c, e, l, r, s, t*; *g* with *n*; *l* with *e, u*; *o* with *m, t*; *r* with *a, d, i, u*; *t* with *e, h, i, u*.

Abbreviations by contraction: *qb*(*quibus*), *ssti*, *ssto*. Abbreviation marks: overline, upward hook, oblique cross stroke.

*A* is open minuscule, with short final member (cp. tab. 6, cols. 1, 5).

*B* has bowed, looped, or double-looped stem, and open bow (cp. tab. 6, cols. 5, 11, 21).

*C* has curve unbroken or broken near base (cp. tab. 6, cols. 1, 2, 6).

*D* has stem simple, bowed, looped, or double-looped, and bow open (cp. tab. 6, cols. 1, 5, 7, 14-16, 36).

*E* has arm written with second stroke or joined with bow or loop of cap; ligature with preceding letter is through base (cp. tab. 6, cols. 2, 3, 5, 62).

*F* has stem looped or folded, and cap bowed to springing point of arm (cp. tab. 6, col. 7).

*G* has *S* or 3-shaped tail, and curving cap stroke (cp. tab. 6, cols. 2, 11, 35).

*H* has simple, hooked, double-looped, or folded stem (cp. tab. 6, cols. 17-19).

*I*, generally short, is occasionally hooked, top left and bottom right.

*L* has stem simple, bowed, folded, or double-looped (cp. tab. 6, cols. 3, 6, 33).

*M* is minuscule (cp. tab. 6, cols. 1-3).

*N* is minuscule, once an initial capital with loop in latter stem (cp. tab. 6, cols. 2, 11, 41).

*O* has intersecting sides in ligature between letters (cp. tab. 6, col. 5).

*P* has looped or clubbed stem, and open bow (cp. tab. 6, col. 30).

*Q* has more or less open bow; with tail slightly oblique left, hooked right (cp. tab. 6, cols. 2, 4, 9).

\* "*Chartula damnatae litis*." "Bergamo, presso la N. D. Antonia Solzi Suardi"—Marini. Plate from Marini's facsimile. Cp. also Lupi, *l.c.*



R has looped, clubbed, or folded stem and pointed shoulder (cp. tab. 6, cols. 4, 9).

S has simple, clubbed, or folded stem (cp. tab. 6, cols. 1, 9, 10, 19).

T links with preceding letter through top of vertical or slurred stem (cp. tab. 6, cols. 2-4).

U is a round or angular minuscule (cp. tab. 6, cols. 1, 2, 4, 6).

X has double curves and finishing hooks (cp. tab. 6, cols. 3, 8).

Y and Z are wanting.

The letter forms correspond most closely to those of the earlier part of the sixth century. The abbreviations by contraction perhaps bring the date down to about the middle of the century.

114. Rome, Vatican. Plate opp. p. 203.

Accounts concerned with church estate. 28.5-32.3 x c.68 cm. Three pieces joined, measuring respectively: 17.5 cm., 34 cm., 16.5 cm. Writing across the fibres. Published: Marini, no. 137 and tab. 21; Gori-Doni, praef., p. XXV, p. 492, no. 10, p. 495; Grimaldi, in *Cod. Vat.* 6064, fol. 25<sup>r</sup> (32<sup>r</sup>)-27<sup>v</sup> (34<sup>v</sup>); *Anon. Cod. Ottobon.* 3168, fol. 134; Marucchi, no. 4.

Ligatures: *a* with *c, d, e, l, n, p, q, r, t, u*; *c* with *e, o, t, u*; *d* with *e, i*; *e* with *a, b, c, d, i, l, m, n, p, r, s, t, u*; *g* with *a*; *l* with *a, e, i, l, n, o, t, u*; *o* with *c, l, m, n, p, s, u*; *r* with *a, e, i, m, o, p, r, s, t, u*; *s* with *a, e, p, s, t*; *t* with *a, e, i, q, r, s, u*; *u* with *e, i, s*; *x* with *e, s*.

Abbreviations by contraction: *ssa, ssta, trm* (*tremis*). Abbreviation marks: horizontal or hook placed above, oblique cross stroke, the downward finial.

A is open minuscule (cp. tab. 6, cols. 1-5, 8, 11, 32, 36).

B has stem simple, clubbed, bowed, or looped (cp. tab. 6, cols. 5, 8, 17, 23).

C has full or broken curve, sometimes with final hook (cp. tab. 6, cols. 3-7, 10, 22, 23).

D has clubbed or looped stem, except when linked with following letter, where the stem is simple, hooked right, and ligature is through bow (cp. tab. 6, cols. 1, 5, 9, 10, 21, 25).

E has full or broken curve in both uncial and minuscule forms; in the latter, the cap is either bowed or looped (cp. tab. 6, cols. 1-5, 7, 10-12, 15, 16, 32, 63-66).

F is wanting.

G has S or narrow 3-shaped curve (cp. tab. 6, cols. 6, 15, 18),

H is wanting.

I is straight, hooked or double-hooked, looped or double-looped (cp. tab. 6, cols. 1, 3, 10, 13-16, 24, 26, 28, 35, 38-40, 46, 52, 53).

K is wanting.

L has stem hooked or folded either side, clubbed, looped, or double-looped (cp. tab. 6, cols. 9, 12, 13, 16, 18, 24, 34, 48, 56, 66).

M occasionally has final inward hook (cp. tab. 6, cols. 1-5, 13, 29, 33, 43).

N is a regular minuscule.

O is open or closed, and links by hook or tangent (cp. tab. 6, cols. 1, 2, 5, 9, 10, 32, 38).

P has stem straight, hooked, or clubbed; ligature is through stem or top of bow (cp. tab. 6, cols. 5-7, 10, 27, 30, 33, 47).

Q has open or slurred bow; the tail is vertical or oblique left, hooked right (cp. tab. 6, cols. 4, 11, 20, 26, 63, 66).

R has looped or folded stem; with shoulder rounding, angular, or tied (cp. tab. 6, cols. 1, 3, 9, 11-13, 18, 20).

S has stem folded, clubbed, or looped (cp. tab. 6, cols. 1, 8, 9, 11, 12, 27, 33, 59, 60).

T has occasional elaborate hooks at left of cap and base of stem (cp. tab. 6, cols. 2-4, 9, 10, 23, 25, 36).

U is generally minuscule, occasionally with tail; the simple curve in ligature with following letter is written above the line, on its side or upside down (cp. tab. 6, cols. 2, 4-6, 10, 13, 17, 18, 24, 25).

X has hooked or double-curved crossarms (cp. tab. 6, cols. 2, 3, 7).

Y and Z are wanting.

The letter forms are those of the earlier part of the sixth century. The abbreviations point toward the middle of the century.

115. Rome, Vatican.

Document concerning estate and slaves. 23-27.4 x 18-21 cm. One jointure c.1-1.5 cm. from the left side of the fragment, showing that the writing was probably in columns. The part to the left of the jointure is blank. Writing along the fibres. Published: Marini, no. 141; Gori-Doni, p. 491, no.

9, p. XXV; Grimaldi, fol. 24<sup>r</sup> (31<sup>r</sup>)-24<sup>v</sup> (31<sup>v</sup>); *Cod. Vat. Ottobon.* 3168, fol. 134; Marucchi, no. 24; Spangenberg, 2, p. 111 (with facs.).

Ligatures: *a* with *a, b, c, d, e, f, g, m, n, p, r, t, u*; *c* with *e, i, o, t, u*; *d* with *e*; *e* with *a, c, f, i, l, m, n, o, p, q, r, s, t*; *f* with *a, e, i, l, o, u*; *g* with *e, i*; *l* with *a, e, i, o*; *o* with *b, d, h, l, m, n, p, r, s, u*; *r* with *a, d, e, i, m, o, t*; *s* with *e, i, o, s, t*; *t* with *a, b, d, e, h, i, r, s, t, u*; *u* with *i*.

Abbreviation marks: hook or line over the letter, oblique cross stroke. A dot high in the line and a colon are occasionally used (for punctuation?).

*A* is open minuscule (cp. tab. 6, cols. 1-5).

*B* has stem hooked, bowed, or looped, and bow line closed upon itself or upon the stem (cp. tab. 6, cols. 3, 5, 10, 16, 17).

*C* has curve full or, in ligature with preceding letter, broken near base (cp. tab. 6, cols. 4-6).

*D* has stem hooked, looped, clubbed, or folded (cp. tab. 6, cols. 1, 9, 21, 24, 36, 60).

*E* has full or broken curve; with cap and arm joined in curve, bow, or loop (cp. tab. 6, cols. 2, 3, 5, 7, 15).

*F* has stem looped or folded, and joined with arm by bow (cp. tab. 6, cols. 3, 6, 7).

*G* has roughly compressed or elongated 3-shaped tail; with flat or widely curved cap (cp. tab. 6, cols. 1, 8, 54).

*H* shows, in ligature, double-looped stem (cp. tab. 6, cols. 6, 10).

*I* occurs with its usual variety in length, hooks, and loops (cp. tab. 6, cols. 1, 3-5, 9, 28, 64).

*K* does not occur.

*L* has hooked, tied, or looped stem (cp. tab. 6, cols. 13, 15, 16).

*M* and *N* are minuscule.

*O* is oval or angular, open or closed, linking by hook or tie or by tangent (cp. tab. 6, cols. 1-3, 5, 9, 26, 37).

*P* has stem simple, clubbed, or folded; ligature is through top or bottom of bow (cp. tab. 6, cols. 5, 8, 11, 30, 31, 61, 74).

*Q* has open bow, tail oblique left and hooked right (cp. tab. 6, col. 7).

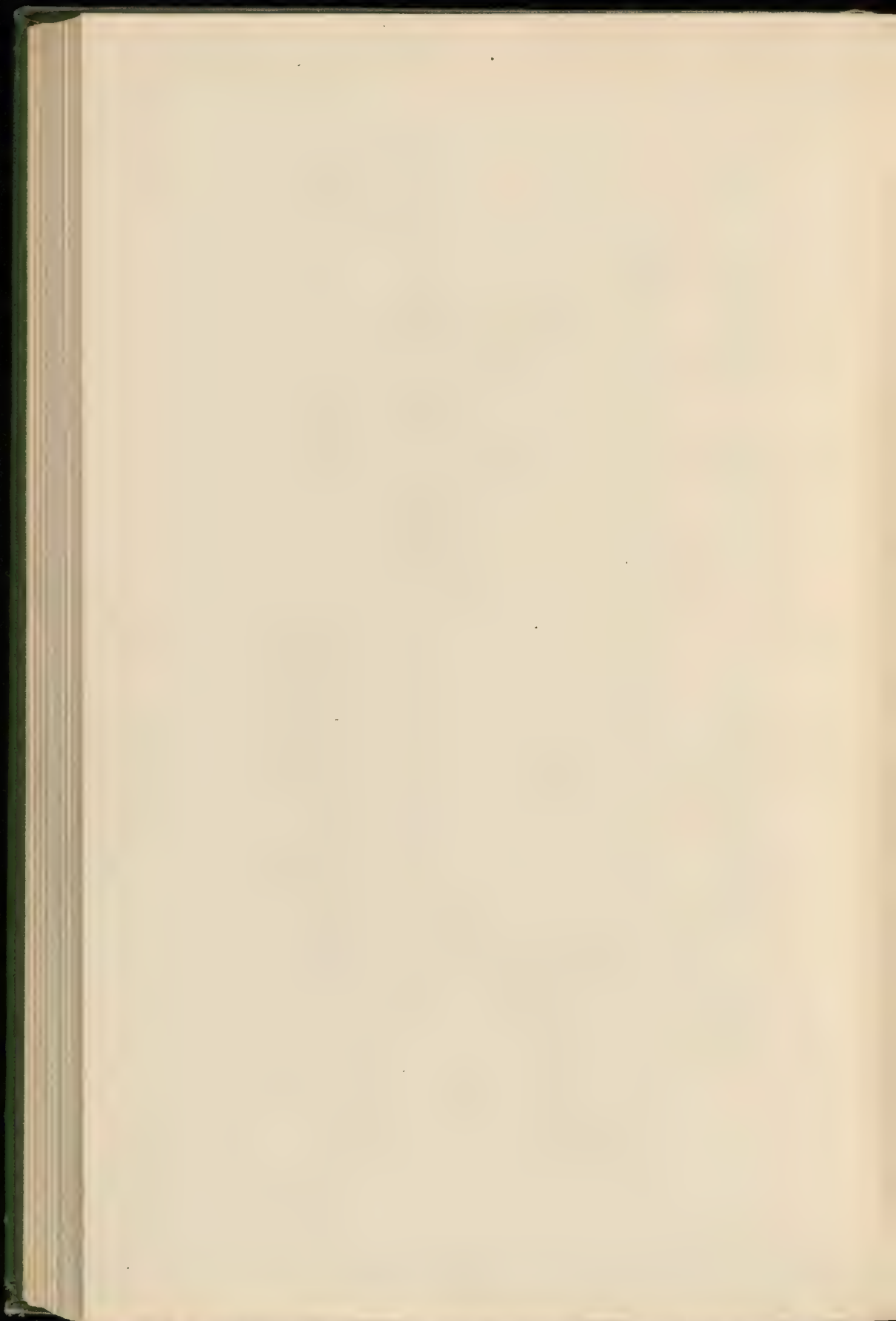
*R* has clubbed or folded stem, and angular or rounding shoulder (cp. tab. 6, cols. 2, 9, 10).

*S* has folded stem (cp. tab. 6, cols. 2-4, 9, 38).

*T* has cap more or less elaborately hooked; ligature with







preceding letter is through stem, either above or below cap stroke (cp. tab. 6, cols. 2-4, 12, 31).

U is minuscule or, in ligature above the line, a simple curve (cp. tab. 6, cols. 8, 18).

X has one crossarm double-curved, the other hooked right at both top and bottom.

Y and Z are wanting.

The letter forms are, in general, those of the early sixth century; the abbreviation and punctuation marks those of the early or middle sixth century.

116. Ravenna, Archivio Arcivescovile.<sup>w</sup> Plate opp. p. 206.

Fragment c. 14 x 23.5 cm. Torn apart through l. 4. Published: Marini, no. 125.

Ligatures: *a* with *b, c, d, e, n, t*; *c* with *e, t*; *e* with *c, i, m, n, o, r, s, t*; *l* with *e, u*; *r* with *a, e, i, o, s*; *s* with *o, t*; *t* with *a, d, e, i, o, r, t, u*.

Abbreviation by contraction: *ssto*, marked by overline.

A is single-stroke or two-stroke minuscule, with occasional ties (cp. tab. 6, cols. 1-3, 13, 19, 24, 38, 44).

B has simple, clubbed, looped, or double-looped stem (cp. tab. 6, cols. 8, 10, 27).

C has curve full or broken near base (cp. tab. 6, cols. 2, 4-6, 10).

D has looped or double-looped stem, often extended below the line (cp. tab. 6, cols. 1, 18, 28).

E has curve full or broken; the arm joined to cap in curve or bow (cp. tab. 6, cols. 2, 5, 16, 19, 42).

F, G, and H are wanting.

I is straight or curved; with or without hooks, bow, or loop (cp. tab. 6, cols. 1, 3, 5, 6, 8, 15, 19, 20, 30, 32, 33, 38, 47).

K is wanting.

L has stem hooked, looped, or double-looped (cp. tab. 6, cols. 6, 8, 9, 13, 30, 33).

M and N are sometimes finished in outward or inward hook (cp. tab. 6, line *m*, cols. 1, 9, 13; line *n*, cols. 1, 2, 10, 33).

O is round, oval, or angular; ligature is by hook or tangent (cp. tab. 6, cols. 1, 11, 24, 25, 29, 39).

P has stem looped or folded, and joined with either top or bottom of bow (cp. tab. 6, cols. 2, 3, 20).

<sup>w</sup> "Faenza. Presso il Sig. Abb. Gio. Battista Tondini"—Marini.

Q has closed bow, sharp shoulder, final hook right (cp. tab. 6, cols. 12, 25).

R has folded, tied, or clubbed stem; with sharp or rounding shoulder (cp. tab. 6, cols. 2, 3, 8, 9, 11, 15, 24).

S has stem clubbed, tied, looped, or folded (cp. tab. 6, cols. 1, 2, 5, 8, 14, 26, 30, 33).

T has cap hooked, sometimes joined to stem at either top or bottom; in ligature the stem is often slurred (cp. tab. 6, cols. 3, 4, 7, 10, 31, 45, 47, 48).

U shows simple-curve and minuscule forms (cp. tab. 6, cols. 2, 4-6, 11, 16, 39).

X and Y are wanting.

Z has large finishing hooks (cp. tab. 6, cols. 5, 10).

The letter forms are those of the first part of the sixth century.

117. Rome, Vatican.

Deed of sale. 115 x 24.3-31 cm. 6 pieces joined, measuring respectively: 19.5 cm., 21.5 cm., 20 cm., 21 cm., 20 cm., 14 cm. Writing across the fibres. Published: Marini, no. 121; Doni-Gori, p. 474, no. 3, p. XXIII; Maffei, *Dipl.*, p. 166; *Nowv. Tr.*, 3, p. 633, no. 1 and pl. 63, II, ii; Grimaldi, fol. 9<sup>v</sup> (16<sup>v</sup>)-11<sup>v</sup> (18<sup>v</sup>); *Anon. Cod. Ottobon.* 3168, fol. 134; Marucchi, no. 12.

Ligatures: *a* with *c, d, e, f, l, n, p, r, s, t, u*; *b* with *r*; *c* with *a, c, e, i, o, t, u*; *e* with *a, c, d, e, f, g, h, i, l, m, n, o, p, q, r, s, t, u, x*; *f* with *a, e, i, l, r, u*; *g* with *a, e, i, n, r, u*; *l* with *a, d, e, i, l, o, r, t, u*; *o* with *b, c, f, g, l, m, n, r, s, u*; *r* with *a, d, e, i, m, n, o, p, r, s, u*; *s* with *a, c, e, o, s, t*; *t* with *a, d, e, i, o, q, r, s, u*; *u* with *e*.

Abbreviations by contraction: *dlm*(*dolum malum*), *expp*, *exppo*(*expraepositus*, etc.?), *prm*, *qb*(*quibus*), *sca*, *scrn*, *sso*, *sstus*, *ssti*, etc. Abbreviation marks: overline, hook above letter, oblique cross stroke, downward finial, sign 9.

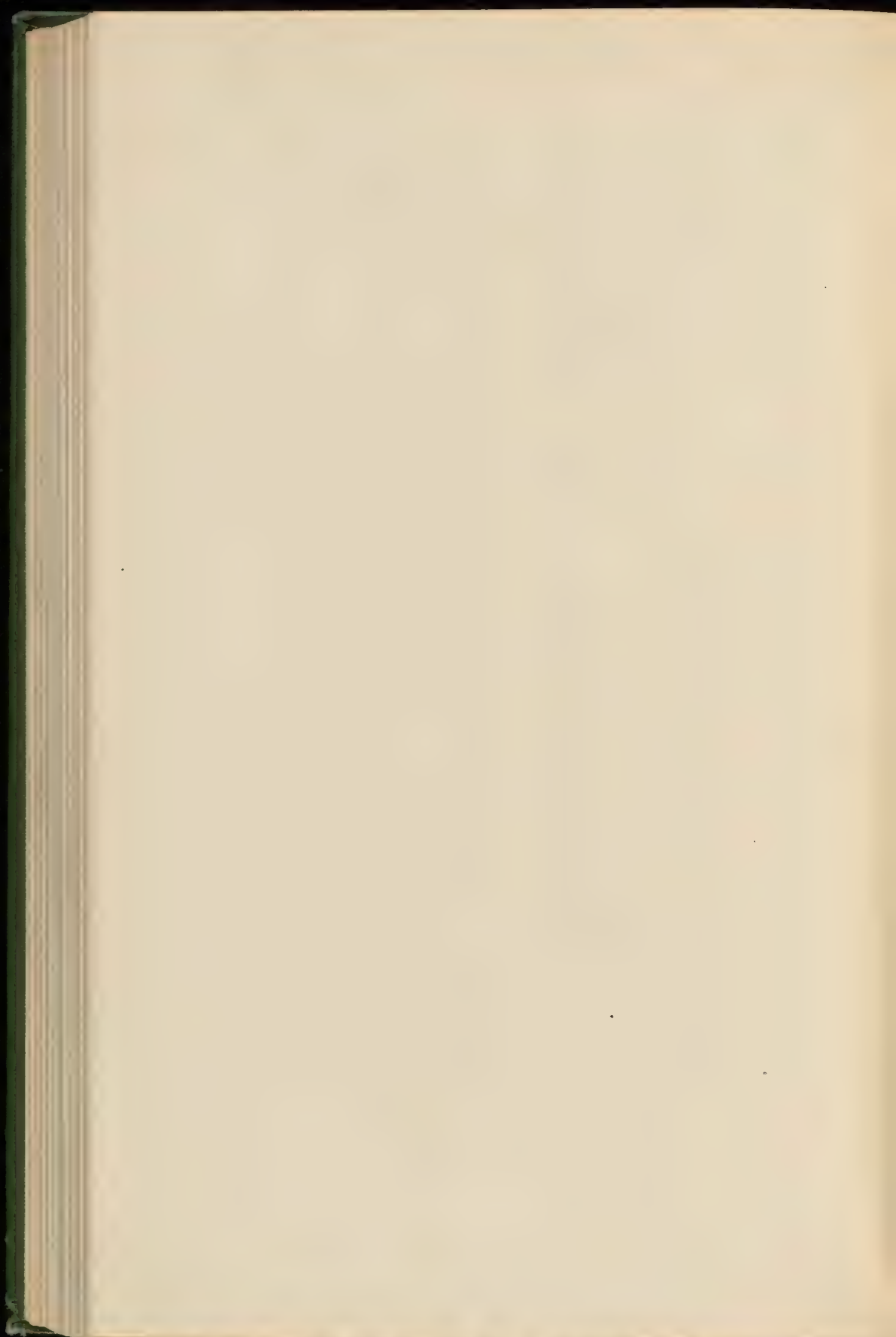
A is open minuscule, occasionally with tie and final hook upward (cp. tab. 6, cols. 1-5, 20).

B has open or closed bow and clubbed or narrow looped stem (cp. tab. 6, cols. 8, 10, 27); the right hook of the bow in ligature with following letter is peculiar.

C has curve full, or broken high or low in the back (cp. tab. 6, cols. 3-7, 19, 20, 23, 26).







D has stem occasionally simple, generally looped, double-looped, or folded (cp. tab. 6, cols. 1, 5, 15, 20, 34).

E has curve full, or, as regularly when linked with preceding letter, broken low in the back; the arm is written sometimes with separate stroke, generally joined to bow, loop, or fold of cap (cp. tab. 6, cols. 2, 3, 5, 7, 8, 10, 12, 21, 26).

F has looped or folded stem; the arm is written with separate stroke or attached to bow of cap (cp. tab. 6, cols. 3, 4).

G has tail in double-curve or 3-shape, the upper curve of the latter form sometimes nearly closed; the cap is sometimes broken (cp. tab. 6, cols. 1, 2, 6, 8, 9, 15, 30, 53, 63, 67).

H has stem simple-curved, bowed, looped, double-looped, or folded (cp. tab. 6, cols. 3, 10, 11, 17, 23).

I has the regular variety of hooks, bows, ties and loops (cp. tab. 6, cols. 1, 3, 6, 8-12, 19, 22, 24, 38-41).

K is wanting.

L has stem hooked, bowed, looped either side, or double-looped; the angle is sharp or curved, acute or obtuse (cp. tab. 6, cols. 8-10, 15, 25, 38, 45).

M and N are regular minuscules.

O is open or closed; linking on either side by hook, tie, or tangent (cp. tab. 6, cols. 2, 3, 5, 7, 8, 10, 14, 26, 32, 37).

P has stem simple, with or without hook, or looped; and joined to bow at top or, with tie, at bottom (cp. tab. 6, cols. 4, 5, 11, 12, 26, 27).

Q has bow open or closed, joining tail in curve or angle; the tail is oblique or curved left, often hooked right (cp. tab. 6, cols. 4, 7-13, 33).

R has folded, clubbed, or looped stem joining arm in curve, angle, or tie (cp. tab. 6, cols. 3, 4, 6, 9, 10, etc.).\*

S has folded or tied stem, and narrow or wide cap (cp. tab. 6, cols. 1-5, 8, 13, 17).

T has cap written with separate, low curving stroke, or, in single-stroke form, continuous upon either end of stem (cp. tab. 6, cols. 1-4, 7, 8, 11, 22, 30, 47, 56, 76).

U is either simple curve or minuscule, the latter sometimes nearly closed (cp. tab. 6, cols. 1, 3, 6, 9, 14, 18, 26, 34, 53).

X has double curves or right hooks (cp. tab. 6, cols. 16, 17).

Y is wanting.

Z has cap hooked and base running downward in a double curve (cp. tab. 6, cols. 5, 9).

\*Accidentally omitted from plate.

The abbreviations *dlm*, *scrn*, *sso*, etc., the abbreviation marks, and the forms of the letters *g*, *o*, *t*, *u* in particular seem to place this ms. as late as the middle of the sixth century.

118. Rome, Vatican.\*

Deed of gift. 30.8 x 25 cm. Writing across the fibres.  
Published: Marini, no. 111.

Ligatures: *a* with *b*, *c*, *n*, *t*; *c* with *e*, *i*, *n*, *r*; *e* with *c*, *d*, *g*, *i*, *m*, *o*, *r*, *s*, *t*, *x*; *f* with *a*, *e*, *i*; *g* with *u*; *i* with *n*; *l* with *i*, *l*; *o* with *g*, *r*; *r* with *e*, *i*, *m*, *o*, *t*, *u*; *s* with *c*, *o*, *t*; *t* with *a*, *e*, *h*, *i*, *o*, *r*, *s*, *u*.

Abbreviations by contraction: *domc* (*domesticus?*), *presens* (*presentis?*), *prm*, *sce*, *scas*. Abbreviation marks: line or hook above the line, oblique cross stroke, downward curving finial.

A is open minuscule (cp. tab. 6, cols. 1-5).

B has stem bowed or folded; and bow line generally closed upon itself or upon the stem (cp. tab. 6, cols. 5, 6, 46, 51).

C has full or broken curve; the lower curve is occasionally finished with bow left (cp. tab. 6, cols. 5-7, 9, 12).

D has looped or double-looped stem (cp. tab. 6, cols. 1, 5, 6, 20).

E has full or broken curve, the upper part joined to arm by loop or bow (cp. tab. 6, cols. 2, 3, 5, 7, 36).

F has folded stem, with arm separate or joined to bow of cap (cp. tab. 6, cols. 6, 7, 9).

G has angular or 3-shaped tail, finished with hook or small loop; the cap is divided or bowed left to join with tail (cp. tab. 6, cols. 10, 39, 56).

H has bowed or folded stem (cp. tab. 6, cols. 3, 5).

I is straight, curved, hooked, double-hooked, or bowed; unusual is the ligature with following letter (cp. tab. 6, cols. 1, 3, 5, 6, 31, 38, 41, 74).

K is wanting.

L has looped or folded stem (cp. tab. 6, cols. 6, 11, 13, 16, 61).

M is minuscule.

N sometimes has initial hook or bow (cp. tab. 6, cols. 2, 8, 13, 50).

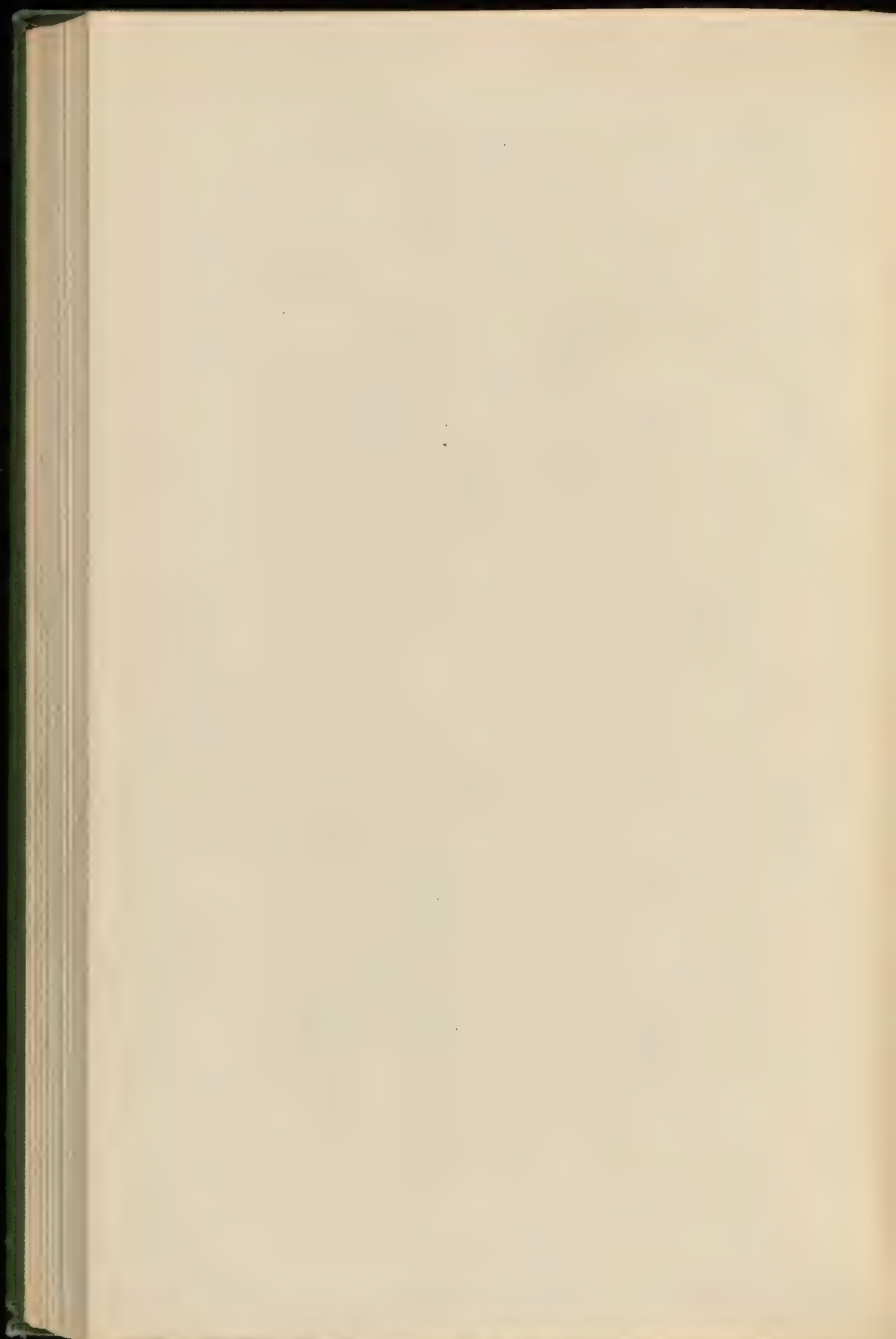
O has sides open or closed, in ligature hooked or simply prolonged in tangents (cp. tab. 6, cols. 1, 2, 5, 10).

P has simple hooked stem (cp. tab. 6, cols. 5, 7).

\* "Roma, Museo Strozzi"—Marini.







Q has bow open and stem curved left, hooked right (cp. tab. 6, col. 11).

R has looped or folded stem joined with arm in curve, angle, or tie (cp. tab. 6, cols. 3, 4, 8, 9, 13, 15).

S has folded or looped stem (cp. tab. 6, cols. 2, 3, 5, 8, 11, 30).

T has cap in low curving separate stroke or, in a single-stroke letter, joined with either extremity of stem (cp. tab. 6, cols. 4, 11, 18, 28, 31, 33, 47, 49, 68, 70).

U, except when written above the line, is a single-stroke or two-stroke minuscule (cp. tab. 6, cols. 2, 4-6, 8-10, 16, 17).

X has one double-curved and one hooked crossarm (cp. tab. 6, col. 4).

Y and Z are wanting.

The forms of *g*, *n*, *t* are those of the latter half of the sixth century; the new abbreviations by contraction also make for a relatively late dating.

118a. Location? British Museum, Pap. CXXXVIII?\* Plate opp. p. 210.

Deed of gift. Published: Marini, no. 110; Lupi, *Cod. dipl. Berg.*, 1, p. 402 ff. (with facs. of ll. 38-39); *Nouv. Tr.*, 3, pl. 63, II; (Muratori, *Antiq. med. aevi*, 2, col. 1000); Maffei, *Dipl.*, p. 145.

Ligatures (in ll. 38-39): *a* with *e*, *r*, *s*; *c* with *i*, *r*; *e* with *d*, *o*; *f* with *o* (or *r*); *l* with *a*; *o* with *l*, *n*, *r*(?); *r* with *i*, *m*, *u*; *s* with *c*, *s*; *t* with *i*, *u*.

Abbreviations by contraction: *prm*, *ssti*, etc. Abbreviation marks: hooked overline, oblique cross stroke, downward double curve.

A is a rather wide, open minuscule, sometimes written above the line in ligature with following letter.

B is wanting.

C is sometimes written with a single stroke, when standing first in a ligature, or broken between back and base; the upper part of curve is sometimes finished with tie; ligature with preceding letter is through base, with following, through upper or lower curve.

D has wide, rather angular bow, and bowed stem hooked right below the line.

\*"In Bergamo presso la Marchesa Antonia Solzi Suardi"—Marini. Cp. Kenyon, *Catalogue*, no. CXXXVIII. Studied in Lupi's facsimile. References to tab. 6 are omitted as Lupi's book came to hand only after the ms. of the dissertation was already in the printer's hands.

E, when standing first in a ligature, is written with a single stroke; ligature with preceding letter is through base, and the upper curve and arm are added in a second stroke.

F has folded stem and separate-stroke arm.

G is wanting.

H has high, bowed stem.

I is variously bowed and hooked.

K is wanting.

L has bowed stem, and base upward curving or, in a two-stroke form linked with preceding letter, long and horizontal.

M and N are regular minuscules.

O has one or both sides prolonged in tangents.

P, written with two strokes, has simple hooked stem.

Q is wanting.

R is long or short, and has folded or clubbed stem, with shoulder more or less sharply curved.

S is long or short, has folded stem, and links with following letter.

T, linked with preceding and following letters, has oblique stem and separate-stroke, low curving cap, or, in a single-stroke form, hooked stem joined at top with bowed cap.

U is an open, rather broad minuscule.

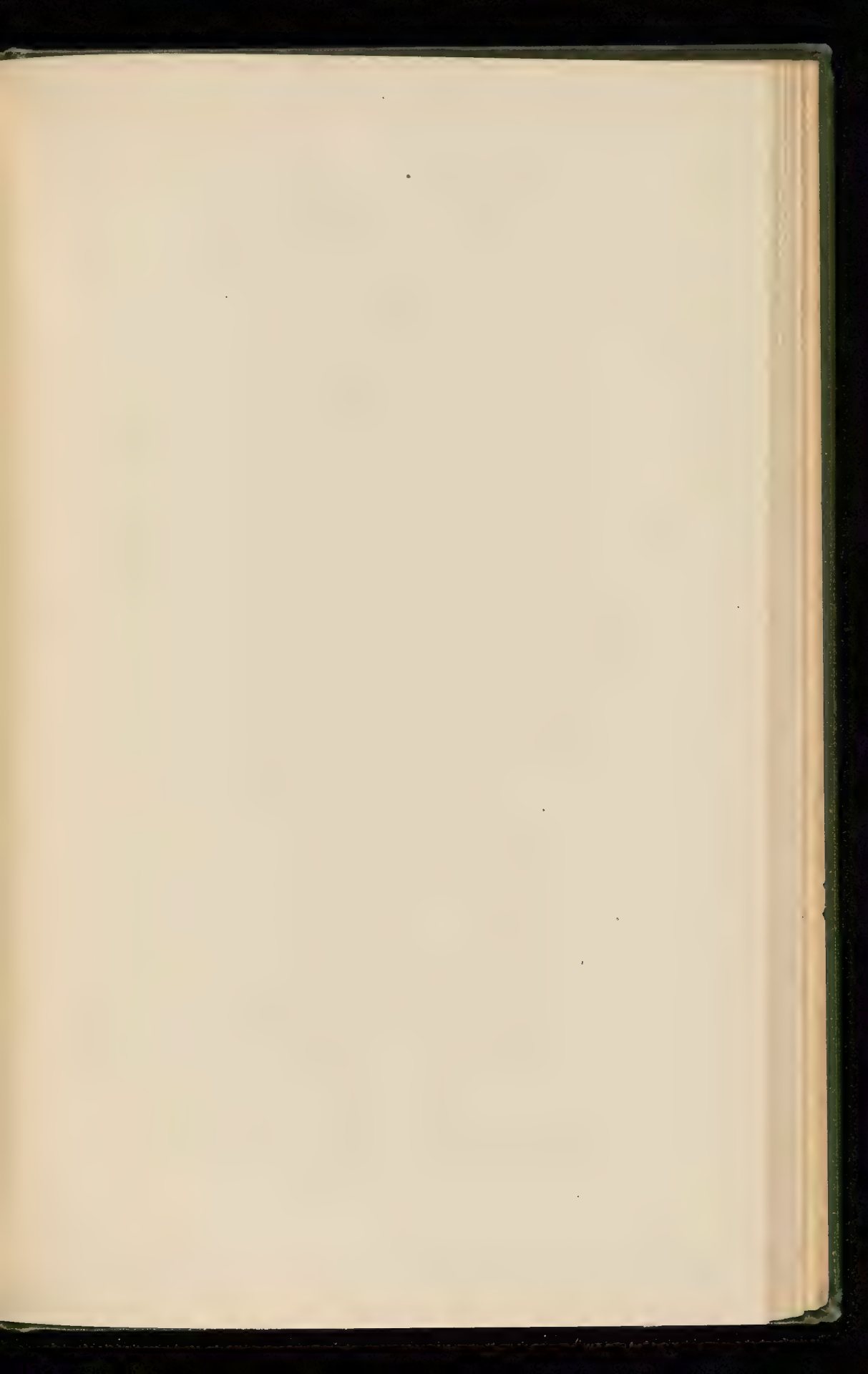
X, Y and Z are wanting.

Abbreviations, abbreviation marks, and letter forms in general indicate sixth or seventh century; the breadth of *a*, *d*, *u*, etc., the tied finial of *c*, the ligatures of *s*, late sixth or seventh century.

119. Rome, Vatican.

Deed of gift. 281 x 31-33 cm. Thirteen pieces joined, measuring in width: 27 cm., 24 cm., 26 cm., 23 cm., 22.5 cm., 23 cm., 23 cm., 21.5 cm., 22 cm., 21 cm., 22.5 cm., 21 cm., 5 cm. At the right of ll. 107-108 the papyrus has been patched with another, small piece of papyrus 1.6 x 2 cm., stuck on obliquely, before the papyrus was written. Writing across the fibres. Published: Marini, no. 93; Maffei, *Dipl.*, p. 143; *Id.*, *Ver. Illustr.*, p. 1, p. 331; *Nouv. Tr.*, 1, p. 277; 3, p. 628 and pl. 63; 5, p. 641, no. 1; *Anon. Cod. Ottobon.* 3168, fol. 134; Marucchi, no. 6.

Ligatures: *a* with *c*, *d*, *e*, *l*, *m*, *n*, *p*, *q*, *r*, *t*, *u*, *x*; *c* with *a*, *c*, *e*, *i*, *l*, *o*, *t*, *u*; *e* with *a*, *b*, *c*, *d*, *e*, *f*, *g*, *i*, *l*, *m*, *n*, *o*, *p*, *q*, *r*, *s*, *t*, *u*, *x*; *f* with *a*, *e*, *i*, *o*, *r*, *u*; *g* with *a*, *e*, *i*, *n*, *o*, *r*, *u*;





[illegible]

*l* with *a, e, i, l, o, t, u*; *o* with *b, c, d, e, g, m, n, p, r*; *r* with *a, b, c, e, g, i, m, n, o, p, r, s, t, u*; *s* with *c, e, t*; *t* with *a, c, d, e, h, i, l, m, o, p, q, r, s, t, u*; *u* with *e, i, o, s*.

Abbreviations by contraction: *dm*(*Deum*), *pda*(*praedicta*), *qe*(*qu(a)e*), *sca*, *sci*, etc., *sst*, *ssta*, etc., *tt*(*tangit?*). Abbreviation marks: line or hook above, oblique cross stroke, the downward finial. A colon (for punctuation?).

A is minuscule, sometimes partially closed (cp. tab. 6, cols. 1-3, 5, 11, 21, 25).

B has stem hooked, bowed, looped, double-looped, or folded; the bow is open or closed, sometimes written with separate stroke, sometimes finished with tie or separate stroke (cp. tab. 6, cols. 3, 5, 6, 9, 10, 13, 27, 36, 38, 48, 52, 53, 55).

C has curve full or broken, in either one or two-stroke forms; sometimes finished with hook or small bow or loop at top (cp. tab. 6, cols. 3-7, 12, 13, 15, 16, 18, 34, 63, 64).

D has bow open or closed; the stem is tied, looped, clubbed, double-looped, or folded, sometimes hooked below the line (cp. tab. 6, cols. 1, 5-7, 9, 18, 20, 21, 24, 28, 30, 57).

E has full or broken curve; with arm in separate stroke or joined with cap in angle, bow, tie, loop, or fold (cp. tab. 6, cols. 1-3, 5-8, 10-12, 20-22, 25, 26, 31, 39, 40, 54, 67).

F has generally clubbed, looped, or folded stem; with arm stroke separate, or joined to bow of cap (cp. tab. 6, cols. 3, 4, 9, 10, 17-19).

G has S or 3-shaped tail; with occasional bow at left of cap or at either end of tail (cp. tab. 6, cols. 1-3, 6, 9, 10, 25, 29, 35, 43, 48, 53, 63, 80, 87).

H has bowed, looped, double-looped, or folded stem (cp. tab. 6, cols. 3, 5, 10, 11, 16, 19, 26, 27).

I is straight, curved, hooked or double-hooked, bowed, or, in ligature, tied, looped, double-looped, or folded (cp. tab. 6, cols. 1, 3, 8-10, 13, 16-22, 24, 38-40, 48).

K is wanting.

L has stem straight, hooked, bowed, looped, double-looped, or folded (cp. tab. 6, cols. 8, 9, 11-17).

M has occasional ties and long finials (cp. tab. 6, cols. 1-5, 7, 19, 21).

N has occasional ties and hooks (cp. tab. 6, cols. 1-3, 11-13, 26, 28).

O is written with one or two strokes, open or closed; with hook, tie, or prolonged sides, often resembling figure 8 (cp.

tab. 6, cols. 5, 6, 13, 16, 18-21, 24, 30-32, 35, 44, 64, 67, 84, 85).

P has stem straight, hooked, clubbed, or folded; ligature is through stem or through top or bottom of bow (cp. tab. 6, cols. 2, 5, 7, 11, 21, 36, 58, 74).

Q has bow closed, open, or slurred; bow is joined to tail in angle or tie; the tail is straight, oblique or curved left, and hooked right (cp. tab. 6, cols. 11, 25, 64, 69, 70).

R has stem simple, looped, or folded; shoulder round, angular, or tied; initial and final hooks are occasional (cp. tab. 6, cols. 3, 4, 6, 8, 9, 12, 18-20, 22, 32).

S has looped or folded stem, occasionally curving low; with frequent finishing hooks (cp. tab. 6, cols. 2-5, 8, 17, 25, 35, 59, 60).

T has cap stroke curving low, sometimes joined to top of stem or hook at bottom of stem (cp. tab. 6, cols. 3-5, 7-10, 18, 21-23, 28, 29, 31, 32, 47, 56, 76, 83, 96; line *u*, cols. 93, 94).

U has, beside the simple-curve forms, single-stroke and two-stroke minuscule forms; occasionally with ties, hooks, or long tail (cp. tab. 6, cols. 2, 4-6, 8-13, 18, 24, 25, 37, 39, 54).

X has curved crossarms (cp. tab. 6, col. 6).

Y is open and hooked both sides (cp. tab. 6, cols. 2, 5).

Z is wanting.

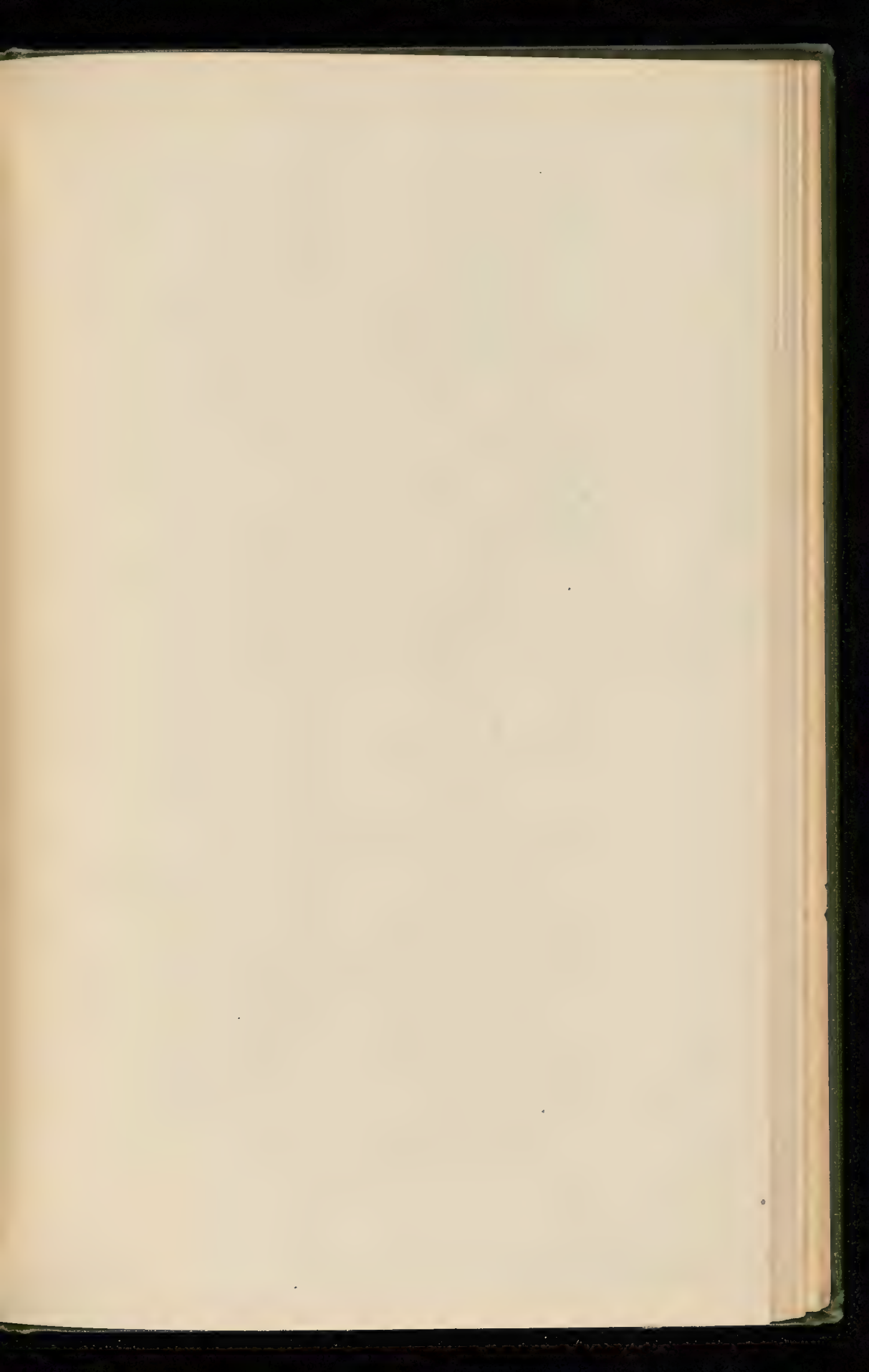
The new abbreviations by contraction, the abbreviation and punctuation marks, and the letters—in particular, the partially closed *a*, the broken-back *c*, the bows of *g*, the ties of *o*, the various ligatures of *p*, the finials of *m*, *n*, *r*, *t*, *u*—argue for a dating in the latter part of the sixth or the seventh century.

#### 120. Location?<sup>7</sup>

Will. "‘Est hoc magnae vetustatis fragmentum pagina quaedam septem fere digitos sive duodecimas partes pedis adhuc alta, paullulum ultra pedem Norimbergensem longa, ceterum ex omni parte manca; cui per modum literarum, uti hodie vocantur, patentium ex una tantum facie codicilli latine inscripti fuerunt, in quibus centum solidos pauperibus et in laminas ecclesiarum legatos esse legimus’."<sup>98</sup> Published: Marini, no. 78; Eumann (Heumannus, Iohannes), *Commentarii de re diplomatica imperatorum ac regum Germanorum inde a Ludovici Germanici temporibus adornati*, Tom. II (Nuremberg,

<sup>7</sup> "Norimberga presso Cristof. Scheurl de Defersdorff"—Marini.

<sup>98</sup> Eumann, p. X. Studied in Eumann's facsimile.







1753), p. VIII-XVIII and tab. 5; (Schwartz, *De ornamentis codicum veterum*, §VII).

Ligatures: *a* with *c, d, e, m, n, p, r, s, u*; *b* with *e*; *c* with *a, c, e, i, l, o, u*; *e* with *a, c, d, i, l, m, n, o, p, r, s, t, x*; *g* with *e*; *i* with *m*; *l* with *a, e, i, l, o, q, u*; *n* with *i*; *o* with *l, m, n, q, r, s*; *r* with *a, c, e, i, o, p, t, u*; *s* with *c, e, o, t*; *t* with *a, d, e, i, o, s, u*; *u* with *m, n*.

Abbreviations by contraction: *pd* (*praedicta?*), *scas*, *sctarum*, *sstum*. Abbreviation mark: overline. A dot in the line occurs, 1. 6. Two dots in ll. 5, 6 (four times).

*A* is open or closed minuscule, occasionally with long finial (cp. tab. 6, cols. 1-5, 9, 16, 22, 26, 68).

*B* has bow nearly or quite closed, and stem clubbed or bowed (cp. tab. 6, cols. 5, 8).

*C* is small or large; the curve is sometimes broken near base; often, in single-stroke forms, broken in the back, like reversed figure 3; often finished at top with hook, bow, or loop (cp. tab. 6, cols. 4, 6, 12, 18, 34, 40, 63, 64).

*D* has stem looped, double-looped, or, most often, clubbed (cp. tab. 6, cols. 1, 3, 5, 6, 9, 14, 20, 40, 45).

*E* shows both the full-curve or broken-back uncial letter and the cursive forms with tie or fold at cap (cp. tab. 6, cols. 1, 3, 7, 8, 10, 19, 53).

*F* is wanting.

*G* has double-curved tail, joining in bow with left of cap stroke (cp. tab. 6, cols. 10, 66).

*H* is wanting.

*I* is straight or curved, hooked either side, in ligature sometimes tied or clubbed; there are a few examples of ligature with following letter (cp. tab. 6, cols. 1, 3, 5, 6, 15, 17, 20, 21, 28-32, 38, 74, 76).

*K* is wanting.

*L* has stem bowed, clubbed, looped, or double-looped (cp. tab. 6, cols. 9, 12, 13, 18, 28, 33, 34, 66, 68).

*M* is a rounding or angular minuscule (cp. tab. 6, cols. 1, 2, 4, 9, 29, 33).

*N* is rounding or angular, rarely linked with following letter (cp. tab. 6, cols. 1, 2, 13, 16, 17, 22, 28).

*O* is open or closed; linking by hook, tangent, or separate link stroke (cp. tab. 6, cols. 1-3, 5, 6, 9, 24, 28, 39, 59).

*P* has stem hooked; ligature is through top or bottom of bow (cp. tab. 6, cols. 4, 5, 7, 8, 16, 29, 53, 74).

Q has bow open or closed, and tail hooked right (cp. tab. 6, cols. 4, 11, 25, 26, 51, 66).

R has clubbed or folded stem and rounding, angular, or tied shoulder (cp. tab. 6, cols. 3, 9, 12, 19, 20, 33, 34, 36, 66).

S has clubbed or folded stem, either wide or compressed (cp. tab. 6, cols. 2-4, 8, 25, 59, 60).

T has cap stroke either straight or hooked low at left, the hook sometimes meeting stem (cp. tab. 6, cols. 2, 4, 6, 7, 9, 14, 19, 29, 37, 47, 71, 96).

U is minuscule, sometimes slurred and with tail, sometimes nearly closed at top (cp. tab. 6, cols. 2, 8, 9, 11, 25, 31, 51, 53, 69).

X has crossarms double-curved or hooked (cp. tab. 6, col. 24).

Y and Z are wanting.

Forms making for a date in the late sixth or the seventh century are: the closed *a*, broken-back *c*, single-stroke *g*, linked *i*, *o* with separate link stroke, *p* linked through lower side of bow, Lombardic *t*. The abbreviations and abbreviation and punctuation marks are in accord with such dating.

121. Venice, Museo Archeologico.\* Plate opp. p. 215.

Lease. 19.5 x 26.5 cm. Three pieces joined. Writing along the fibres. Published: Marini, no. 133; (Zannetti, *Osservazioni intorno ad un Papiro Ravennate* (1771), p. XIV).

Ligatures: *a* with *c*, *m*, *r*, *u*; *c* with *e*; *e* with *a*, *b*, *d*, *m*, *n*, *r*, *s*, *t*, *x*; *f* with *u*; *g* with *e*; *l* with *a*, *u*; *o* with *e*, *f*, *n*, *p*; *r* with *a*, *e*, *i*, *m*, *o*, *s*; *s* with *c*; *t* with *a*, *e*, *i*, *n*, *r*, *u*.

Abbreviations by contraction: *eca* (or *ecs*?) (*ecclesiae*), *sce*. Abbreviation marks: line or hook above, oblique cross stroke.

A is open or closed minuscule (cp. tab. 6, cols. 1-5, 7, 14, 25, 26).

B has bowed, looped, or folded stem, and closed bow (cp. tab. 6, cols. 5, 10, 17, 46).

C has curve full or broken (cp. tab. 6, cols. 4, 6, 7, 9, 12, 22, 23).

D has stem clubbed, narrowly looped, or double-looped (cp. tab. 6, cols. 1, 5, 15, 21).

E shows great variety: curve full or broken; upper part of curve joined to top or right hook of lower; arm in separate stroke or joined with cap in curve, loop, or bow; peculiarly,

\* "Biblioteca di S. Marco"—Marini.

ligature with preceding letter sometimes takes place through upper part of curve, which is then looped to join at right with lower curve, from the left extremity of which, in turn, the arm springs (cp. tab. cols. 2, 3, 7, 8, 28, 32, 36, 37, 45, 54, 65, 67, 75, 80).

F has lower part of stem looped or clubbed, and upper part hooked or bowed; some peculiar forms, like our modern cursive minuscule, have the arm attached to loop of lower part of stem (cp. tab. 6, cols. 8, 18; pap. no. 82).

G has tail consisting of oblique over curve, joined in a bow with cap stroke (cp. tab. 6, cols. 10, 25).

H is wanting.

I is straight, curved, hooked or double-hooked, or tied (cp. tab. 6, cols. 1, 3-5, 13, 16, 17, 20, 21, 30, 32, 44, 47).

L has straight or hooked stem (cp. tab. 6, cols. 1, 29, 32).

M and N are regular minuscules.

O is generally closed, with one or both sides prolonged, especially when occurring in ligature (cp. tab. 6, cols. 1, 2, 5, 19).

P has simple or folded stem; ligature is through top of bow (cp. tab. 6, cols. 2, 4, 5, 7).

Q has bow nearly closed and tail oblique or double-curved left (cp. tab. 6, cols. 8, 12, 14, 55).

R has clubbed or folded stem and round or angular shoulder (cp. tab. 6, cols. 1, 3, 6, 9, 10, 20, 25, 48).

S has stem clubbed, looped, or folded (cp. tab. 6, cols. 1, 2, 4-6, 8, 13, 14, 25, 28).

T has cap hooked low at left, approaching or joining stem stroke (cp. tab. 6, cols. 4, 8, 16, 18, 23, 29, 47, 58, 95, 96).

U is minuscule or, both when written in the line and when above, simple curve; the long tail is occasional (cp. tab. 6, cols. 2, 4-6, 8-13, 23, 25, 26).

X has one straight and one double-curved crossarm.

Y and Z are wanting.

The abbreviations, closed *a*, the peculiar forms of *e* and *f*, and the Lombardic *t* place this ms. probably in the latter half of the sixth or in the seventh century.

122. Manchester, Rylands Collection.

Formerly in the Balcarres Collection; at different times in Bologna, Museo dell' Istituto, in Rome, possession of Professor Corvisieri, and in the possession of Duke Caetani. Deed



of gift. 5 ft. 4 in. x 11½ in.<sup>97</sup> Published: *Pal. Soc.*, 2, pls. 51-53; Marini, no. 90; Monaci, *Arch. Pal. Ital.*, 1 (Rome, 1882-1897), pls. 1-5; Mabillon, *Iter Italicum*, p. 199; *Id.*, *Suppl. de Re dipl.*, no. III; *Nouv. Tr.*, 5, p. 637; (Riginti, R., *Fra i papiri di Ravenna, Il papiro Marini 90* (Rome, 1906.)); Reusens, pl. 5; Silvestre, pl. 135; Williams, pls. 90, 90a.

Six different hands are distinguishable, one of which is in Greek. Ligatures: *a* with *b, c, d, e, f, g, i, l, m, n, q, r, s, t, u*; *c* with *a, c, e, h, i, l, o, r, t, u*; *e* with *b, c, d, e, f, g, i, l, m, n, o, p, q, r, s, t, u, x*; *f* with *a, e, i, o, r*; *g* with *a, e, i, n, r, u*; *l* with *a, e, i, l, o, p, s*; *o* with *c, d, g, h, m, n, p, r, s, t, u*; *r* with *a, b, c, e, g, i, m, o, p, t, u*; *s* with *c, e, g, o, p, s, t, u*; *t* with *a, c, d, e, h, i, o, p, r, s, t, u*; *u* with *o, r*; *x* with *p*.

Abbreviations by contraction: *hhdes*, *pdtæ*, *pdto*, etc., *prm*, *sca*, etc., *ssta*, etc. Abbreviation marks: the overstroke, oblique cross stroke, and sign 3.

A is open, slurred, or closed; sometimes consisting of a horizontal bow with high shoulder at right; ties are occasional (cp. tab. 6, cols. 1-5, 7, 8, 13, 16, 19, 25, 26, 30, 34, 44, 45, 65, 66, 69).

B has stem hooked either side, bowed, looped, clubbed, double-looped, or folded; the bow line is open, hooked inward, or closed either upon itself or upon the stem (cp. tab. 6, cols. 3, 5, 8, 10, 11, 16, 17, 19, 20, 29, 46, 50, 70, 74).

C is short and angular, or tall; with full or broken curve, occasionally finished with bow or loop (cp. tab. 6, cols. 4-6, 9-12, 22, 36, 40, 63).

D has stem clubbed, looped, double-looped, or folded; often prolonged below the line, occasionally with finishing hook; the bow is sometimes closed (cp. tab. 6, cols. 1, 5, 6, 9, 15, 20, 21, 28, 34, 70, 76, 77, 81).

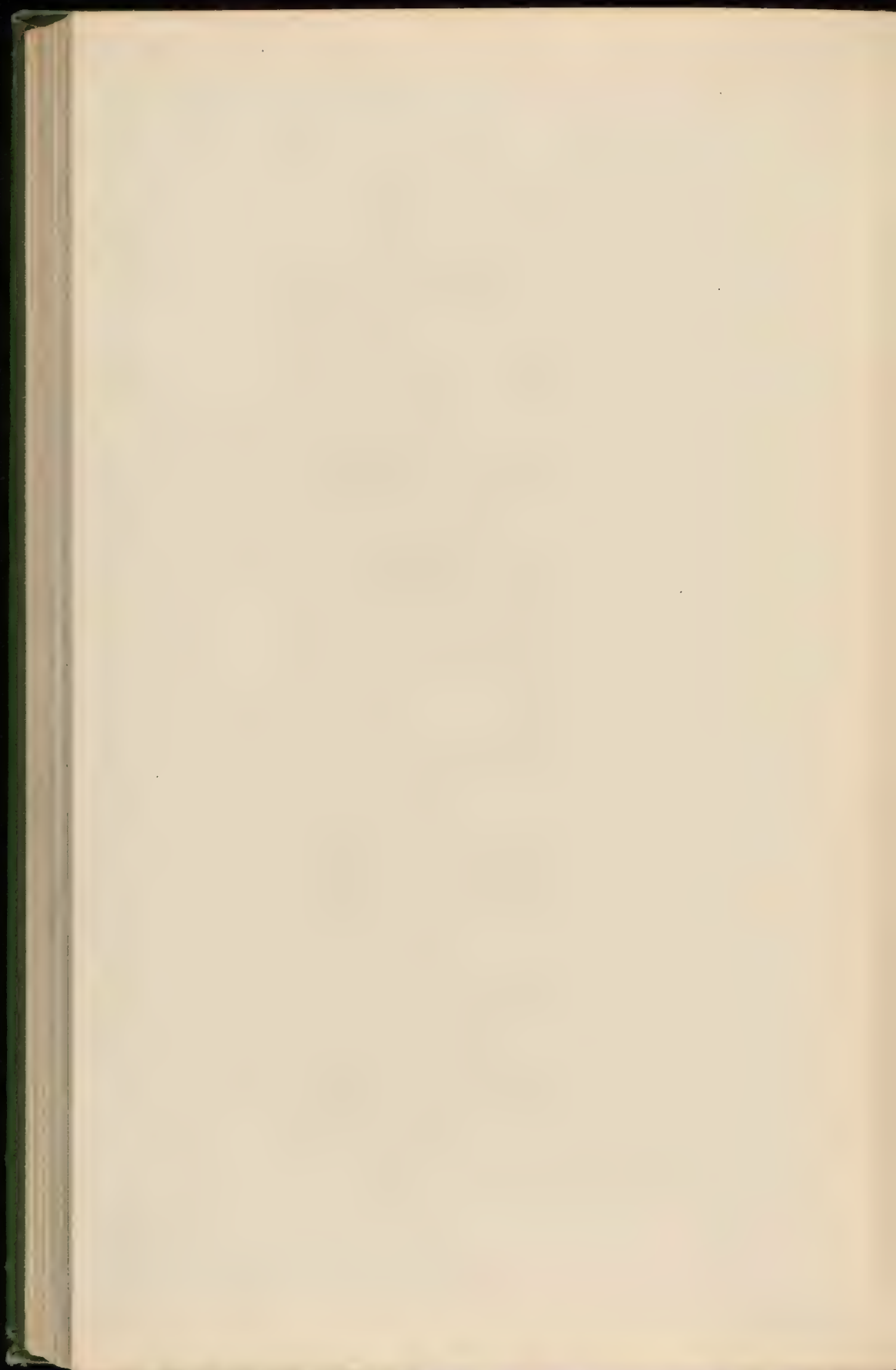
E occurs in both quasi uncial and cursive forms; the curve is either full or broken, the upper curve sometimes continuous upon right extremity of base; arm is separate from cap or combined with it in curve, bow, or loop; in ligature with preceding letter the base is sometimes omitted (cp. tab. 6, cols. 1-3, 5, 7, 11, 15, 21, 22, 30, 32, 45, 67, 80).

F has clubbed, looped, or folded stem; the arm is written separately or in combination with bow or double loop of cap (cp. tab. 6, cols. 3, 15, 25, 29, 30, 47).

G has tail consisting of oblique over curve, double curve,

<sup>97</sup> Description from *Pal. Soc.*, ser. 2, pl. 51. Studied in facsimile.





or figure 3, with upper curve sometimes closed; the cap stroke is sometimes joined by bow to top of tail, sometimes broken (cp. tab. 6, cols. 3, 6-9, 12, 13, 21, 23, 25, 30, 32, 42, 43, 49, 53, 63, 71).

H has stem clubbed, bowed either side, looped, double-looped, or folded (cp. tab. 6, cols. 3, 5-8, 11, 26, 28, 36).

I is straight, hooked, double-hooked, bowed, or, in ligature, looped or double-looped (cp. tab. 6, cols. 1, 3-6, 8, 12, 14, 18, 24, 30, 31, 35, 38, 39, 45, 46, 55, 68, 69, 88; line *k*, cols. 88, 93).

K is wanting.

L has stem hooked, bowed or looped either side, clubbed, double-looped, or folded; the base is sometimes written with a second stroke (cp. tab. 6, cols. 6, 8-13, 15, 16, 18, 24, 29, 30, 56, 68, 73, 74).

M and N are regular minuscules.

O is oval, sometimes angular, sometimes with tail so as to resemble *u*; ligature is by tangent, hook, tie, or separate link stroke (cp. tab. 6, cols. 1-3, 5, 9, 10, 18, 19, 24, 26, 33, 38, 39, 59, 64, 66, 82, 83).

P has simple or clubbed stem, generally hooked right; ligature is through top of bow or left hook of clubbed stem (cp. tab. 6, cols. 8, 11, 19, 21, 33, 47, 64, 67).

Q has closed, open, or slurred bow; sharp shoulder; tail oblique or curved left, sometimes hooked right (cp. tab. 6, cols. 3, 5, 7, 12, 27, 45, 63, 64).

R has stem clubbed, tied, or folded, sometimes with wide opening; the arm is joined in curve, angle, or tie (cp. tab. 6, cols. 3, 4, 6, 8-13, 15, 18-20, 24, 25, 27, 31-34, 38, 49, 52, 54, 64-66).

S has stem clubbed, tied, looped, or folded, sometimes with wide opening (cp. tab. 6, cols. 1-3, 5, 11, 13, 15, 17, 20, 33, 59, 60).

T has cap stroke written separately, generally hooked low like Lombardic *t*, or continuous upon top or upon right hook at base of stem; the stem is linked with preceding letter either below or above cap stroke (cp. tab. 6, cols. 4, 5, 7, 8, 10-12, 14, 15, 19, 20, 38, 40, 48, 56, 71, 76, 90, 92, 96).

U, except when written in a simple curve above the line in ligature with following letter, is minuscule, with either wide or narrow opening (cp. tab. 6, cols. 1, 2, 4-6, 8, 17, 20, 22, 44, 69).

X has more or less elaborate finishing hooks; it is some-



times written with a single stroke, the two right arms joined in a loop (cp. tab. 6, cols. 11, 13, 28-30, 37).

Y and Z are wanting.

Indications of the late sixth or the seventh century are: the abbreviations, the closed *a*, the more elaborate forms of *c* and *f*, the closed upper curve of *g*, the ties and separate link strokes of *o*, the slurred forms of *r* and *s*, the low curving cap and intricate ligature forms of *t*.

123. Rome, Vatican.

Deed of gift. Two fragments: (a) 24-27.5 x 26-29 cm. One jointure, 22 cm. from the top. (b) 110-111 x 30-31 cm. 6 pieces joined, measuring respectively: c. 13 cm., 20 cm., 19.5 cm., 19.5 cm., 19.5 cm., c. 18 cm. Writing across the fibres. Published: Marini, no. 92; Marucchi, no. 9; Spangenberg, 2, p. 260 (with facsimile).

Ligatures: *a* with *b, c, d, e, f, g, i, n, o, r, t*; *c* with *c, e, i, l, o, r, t, u*; *d* with *a*; *e* with *a, c, f, g, i, l, m, n, o, p, r, s, t, u, x*; *f* with *a, e, o*; *g* with *a, e, f, i, n, o, q, r, u*; *h* with *e*; *l* with *e, i, l, u*; *m* with *e*; *n* with *c, e*; *o* with *f, g, m, n, p, r, s, t*; *q* with *u*; *r* with *a, b, c, e, i, o, r, t, u*; *s* with *a, c, e, o, s, t, u*; *t* with *a, c, e, h, i, o, q, r, s, t, u*; *u* with *e*.

Abbreviations by contraction: *domc* (*domesticus*), *magnf*, *magf* (*magnificus*), *sca*, *sce*, etc., *ssta*, etc. Abbreviation marks: a line, hook, or oval above the line; oblique cross stroke; downward or upward finial.

A is often closed; ties, initial hooks, and final tails are frequent (cp. tab. 6, cols. 1-5, 9, 26, 30, 32, 34, 48, 52, 65, 71).

B has stem hooked or bowed either side, clubbed, looped, double-looped, or folded; the bow is generally closed, sometimes hooked right (cp. tab. 6, cols. 3, 8, 11, 17, 23, 42, 46, 64, 66).

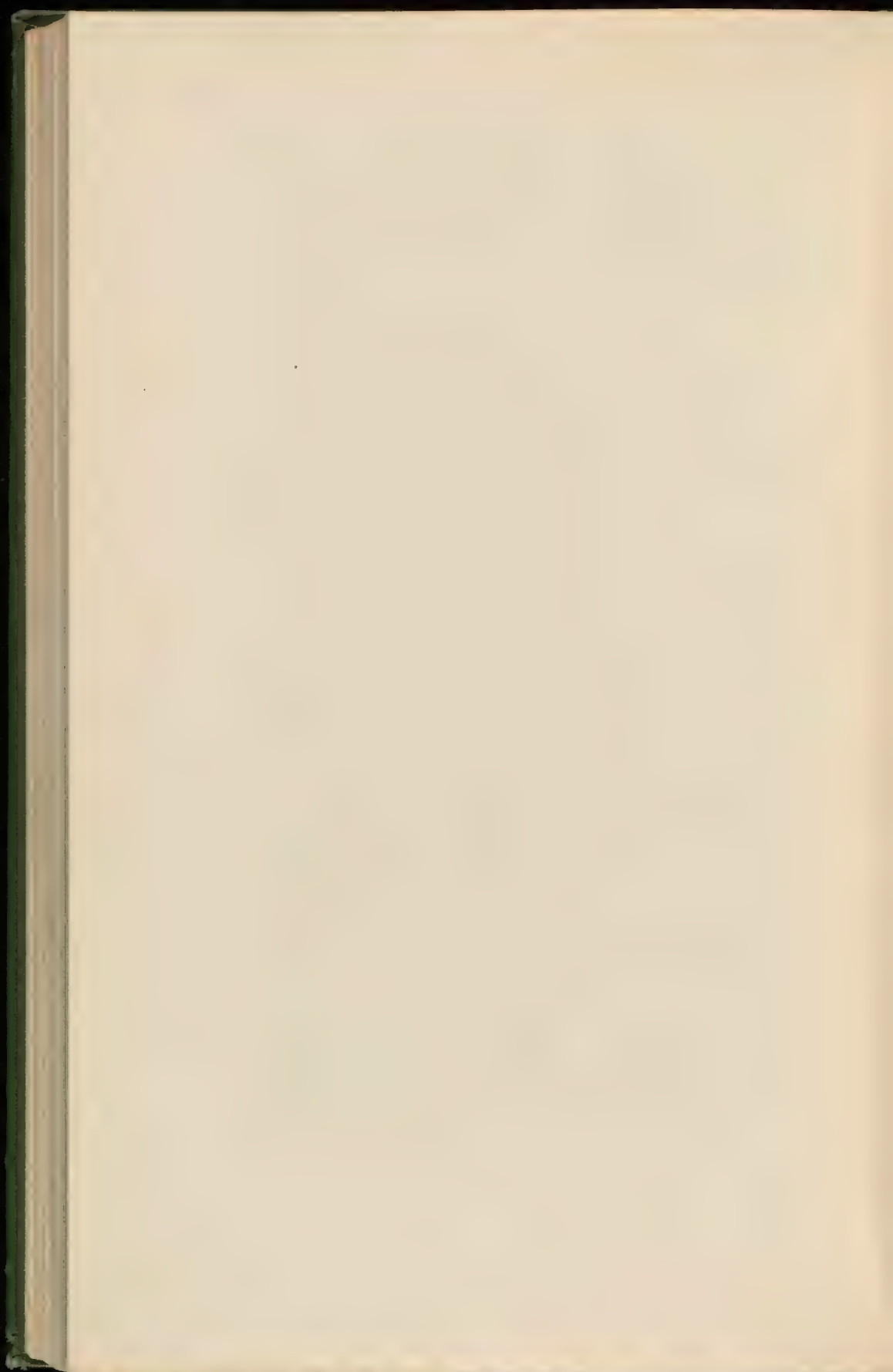
C is tall or short, angular or round, with curve full or broken in both single-stroke and two-stroke forms (cp. tab. 6, cols. 3, 5, 6, 10-12, 18, 22, 23, 34, 36, 44, 50, 62).

D has open or closed bow; and clubbed, looped, double-looped, or folded stem, sometimes hooked below the line (cp. tab. 6, cols. 1, 5, 14, 15, 28, 30, 34, 40, 50, 70, 77, 82, 83).

E has full or broken curve; arm and cap are joined in angle, bow, or loop (cp. tab. 6, cols. 2, 3, 5, 7, 8, 22, 25, 39, 41, 42, 46, 63, 69, 74).

F is written with either one or two strokes; the stem is





curved, hooked, clubbed, looped, or folded; the arm is written separately or joined with cap in bow or tie (cp. tab. 6, cols. 3, 8, 12, 16, 20, 28, 29, 47, 48).

G has tail consisting of double curve, oblique over curve, or figure 3, with one of the curves sometimes nearly closed; the cap is sometimes broken (cp. tab. 6, cols. 1, 6, 14, 22, 32, 35, 42, 48, 49, 51, 53, 56, 58, 69, 81).

H has stem bowed either side, clubbed, folded, looped, or double-looped (cp. tab. 6, cols. 11, 12, 15, 16, 24, 26, 28); the ligature with following letter is peculiar.

I shows unusual variety of form, its stem sometimes complicated to three loops (cp. tab. 6, cols. 1, 3, 5, 6, 8-16, 19, 21, 22, 28-30, 32, 33, 35, 38, 40, 41, 44, 47, 50, 52, 56, 66, 78; line *k*, cols. 88, 89, 92, 93).

K is wanting.

L has stem bowed, clubbed, looped, double-looped, or folded (cp. tab. 6, cols. 5, 8, 9, 11-13, 16, 30, 31, 33, 34, 64, 68).

M has occasional finials (cp. 6, cols. 2, 4, 13, 14, 19, 20, 22, 41).

N has occasional ties and finials (cp. tab. 6, cols. 1, 12-14, 21, 23, 30, 34).

O is open or closed; round, oval or angular; ligature is by hook or tangent (cp. tab. 6, cols. 1-3, 5-7, 9, 16, 19, 20, 30, 39, 78, 79).

P has stem straight, hooked, clubbed, looped, or folded; ligature is through top of bow or left hook of stem (cp. tab. 6, cols. 5, 7, 11, 21, 30, 37, 53, 54).

Q has bow open or closed, joining tail in angle, curve, or tie; the tail is oblique left, often hooked right (cp. tab. 6, cols. 4, 12, 20, 25, 27, 56, 62).

R has clubbed, tied, or folded stem, joining arm in curve, angle, or tie (cp. tab. 6, cols. 6, 7, 9, 11, 12, 15, 16, 18-20, 25, 30, 33, 34, 36, 38, 52, 56, 65, 66).

S has stem simple, looped, or more or less widely folded (cp. tab. 6, cols. 2-4, 8, 12, 14, 17, 20, 34, 36, 38, 48, 59, 73).

T has either flat or low curving cap, often joined to top or right hook of stem (cp. tab. 6, cols. 4, 6-8, 11, 15, 16, 21, 23, 29, 31-33, 36, 40, 42, 47, 69, 70, 75, 90).

U is a single-stroke or two-stroke, more or less open, minuscule, except the simple-curve form, which is written upside down above the line in ligature with following letter; ties



and long tails are occasional (cp. tab. 6, cols. 2, 4-6, 8, 10, 12, 19, 20, 24, 37, 51, 53).

X has double curves and right hooks (cp. tab. 6, col. 16).

Y and Z are wanting.

The abbreviations, the height and lateral compression of the high letters (*b, d, h, i, l*), the elaborate finials, the closed *a, g*, and *u*, the hooks and intricate ligature forms of *t*, all resembling letters of the National hands, serve to date this ms. probably in the seventh century.

124. Aberdeen Museum.

Latin papyrus fragment which "is written in a literary form of old Roman Cursive; but is too fragmentary for me to make any suggestion as to its characters" (Winstedt). Published: Winstedt, E.O., *Greek and Latin Papyri in Aberdeen Museum*, in *Classical Quarterly* 1 (1907), p. 266.

125. Aberdeen Museum.

Latin papyrus fragment. "... again the writing is a literary cursive" (Winstedt). Published: Winstedt, *l.c.*

126. Aberdeen Museum.

Latin papyrus fragment. "Another pronounced cursive is clearly a deed . . . but it and the other Latin fragments are too fragmentary to be worth reproducing. One of them consists of practically nothing but the name *Heliopol(is or -itanus)*" (Winstedt). Published: Winstedt, *l.c.*

127. Vienna, Hofbibliothek, Sammlung Rainer, Inv. Nr. 7007. A letter address. 4 x 19.5 cm.<sup>98</sup>

128. Vienna, Hofbibliothek, Sammlung Rainer, Inv. Nr. 7005. Document in Greek with subscription in Latin "legimus". 8.5 x 10 cm.<sup>99</sup>

128a. Manchester, Rylands Library. "Un fragment greco-latin fort curieux"—de Ricci, in *Revue des Études Grecques* 15(1902), p. 447.

129. Location?<sup>a</sup> Deed of gift.

<sup>98</sup> *Führer*, p. 123, no. 522.

<sup>99</sup> *Führer*, p. 127, no. 516.

<sup>a</sup> "Roma, Archivio del Monastero di S. Alessio"—Marini, no. 81. Cp. Nerini, *De Templo et Coenobio SS. Bonifacii et Alexii*, p. 33. This ms. and nos. 130-137 are of uncertain location, date, and script.

130. Location?<sup>b</sup> Deed of gift.

131. Location?<sup>c</sup> Deed of gift.

132. Location?<sup>d</sup> Deed of gift.

133. Location?<sup>e</sup> Deed of gift.

134. Location?<sup>f</sup> Deed of gift.

135. Location?<sup>g</sup> Deed of sale.

136. Location?<sup>h</sup> Deed of sale.

137. Location?<sup>i</sup> Document concerning church.

138. Location?<sup>j</sup>

139. Location?<sup>k</sup>

140. Cagliari, University Library, Pergamena 1.<sup>1</sup>

<sup>b</sup> "Monastero Besuldunense"—Marini, p. 322, note on no. 104.

<sup>c</sup> "Roma, Museo del Cav. Franc. Gualdo Riminese"—Marini, no. 107.

Cp. Gori-Doni, no. 13, p. 499, p. XXVI.

<sup>d</sup> "Padova, Casa i Conti Lazara"—Marini, no. 108. Cp. Maffei, p. 168; Gori-Doni, no. 12, p. 498 p. XXVI.

<sup>e</sup> "Bologna, Museo dell' Istituto"—Marini, no. 109.

<sup>f</sup> "Milano, Casa il Conte Donato Silva"—Marini, no. 112. Cp. Maffei, p. 168.

<sup>g</sup> "Padova, Museo del Mar. Obizi del Catajo"—Marini, no. 124.

<sup>h</sup> "Verona, Museo Moscardi"—Marini, no. 128.

<sup>i</sup> "Bologna, Museo dell' Istituto"—Marini, no. 142.

<sup>j</sup> "Una volta nell' Archivio della Ch. Ravennate." "Ora in Castel S. Angelo" - - "Pergamena"—"Exemplar Privilegii Valentiniani Imperatoris." Date about 430. "Falso falsissimo."—Marini, no. 57.

<sup>k</sup> "Archivio del Monastero di Ferrieres." Date 508. "Falso"—Marini, no. 68.

<sup>1</sup> "I caratteri del diritto son di quelli, che come scrisse il Marini non sono nè gotici nè longobardici, ma sibbene appartengono all' antico corsivo romano. . . ." "Abbraccia 36 linee di scrittura, che di prima veduta sembra una prosa continuata. Senonche in realtà è un carme o ritmo latino di 174 versi intieri, tranne l'80, che manca d'un emistichio. Nel suo rovescio in caratteri del secolo XIV si legge 'P (Pergami) V— En aquesta pergami se contenen moltes massa antiches noticies de la nostra isla de Cerdanya' . . . "É ovvio che il Ritmo o canto popolare fu scritto sotto il regno di Gialeto durato dal 687 al 722. Siccome poi

141. Cagliari, University Library, Pergamena 2. "Cronaca latina del secolo VIII"—"Palinsesto."<sup>100</sup>

vi si accenna a felicità di tempi per Sardegna, è dato di argomentare con certezza che fosse di tempo anteriore alle prime invasioni dei Saraceni avvenute nel secolo VIII fra il 707 e 709"—Martini, *Pergamene codici e foglie cartacei di Arborea*. On the falsity of this and the following, no. 141, cp. Wattenbach, *Lat. Pal.*

<sup>100</sup> Martini, *l.c.*

## CHAPTER IV

### SUMMARY HISTORY OF THE ROMAN CURSIVE ALPHABET

After this analysis of the various monuments of Roman cursive writing for the forms of the letters, which necessarily took some notice of the different stages in their development, it remains here only to give a brief recapitulation of the history of each letter and to determine how far the points in palaeography thus brought out can be made to serve for the dating of papyri or other similar monuments which are written in this script and bear no actual datings.

The letter *a* develops very slowly into our modern, open or closed, cursive minuscule. In the Pompeian graffiti the capital letter is frequent but is almost always drawn in a rough, disjointed fashion so that the cursive (*running*) hand is already evident. Irregularities in outline arise from the curving of the legs, their failure to meet, and, more than all, from the various positions taken by the transverse. This sometimes maintains its horizontal position between the two legs, but is often disconnected from one or the other or both. It is, again, replaced by a vertical or oblique pendant from one or the other, generally the second, leg; or this pendant may hang unattached between the two legs. The number of strokes necessary to writing the letter is reduced from three to two by attaching the pendant to the end of the second leg in a backward curve instead of to a point near the middle. Finally both transverse and pendant disappear and the second leg is written with outward rather than inward curve, so that the pen or stylus may be brought nearer the beginning of the following letter. The two legs occasionally placed a little distance apart in the wax tablets already suggest the open cursive minuscule. All of these forms occur throughout the first century, although by the middle of the century the two-stroke letter is almost universal (cp. tab. 2). In the latter part of the century and during the first part of the second century, the inward curve of the second leg grows less and less frequent until, from about the middle of the



second century, it is exceptional. The curving outward or inward of the second leg was easily prolonged so as to form a link to the first stroke of a following letter, or even, as often in the wax tablets, to form that first stroke itself. This tendency is already active in the latter part of the first century, when four or five other letters may follow it in ligature (cp. no. 6). By the middle of the second century and thereafter it is found variously linked before all the most used letters of the alphabet and occasionally with the less frequent ones (cp. nos. 9, 19, 21).

The upper end of the second leg often has a finishing hook to the left or right; the base of the first leg hooks to the left. These hooks, perhaps more frequent after the first century, are more or less elaborate according to the individual hands of the scribes. Occasionally the hook of the first leg is so long as to give the letter some resemblance to the open minuscule (cp. nos. 12, 14; tab. 2, cols. 21, 25). A form of this sort, occurring in ligature at the end of the third century (no. 43, tab. 4, col. 4), has the whole letter in a single broken-line stroke; and the fourth century (cp. tab. 4) completes the development of the open cursive minuscule, the finishing hook becoming as high as, or higher than, the legs, and the legs drawing together, sometimes in a tie (tab. 4, cols. 5, 6, etc.), until the second leg is often nothing more than a tail or a link to the following letter. These minuscule forms, in ligature with following letter, are often placed high in the line (tab. 4, cols. 7, 8, 11, etc.). As in the latter part of fourth, so throughout the fifth, century, this wide open, sometimes slurred (tab. 5, col. 22) minuscule is the regular form, more often in ligature than not, and often placed high in the line to link with following letter. Toward the middle of the fifth century, while this form is still regular, certain slight changes appear: the curve (representing hook and first leg of the older letter) occasionally becomes nearly or quite closed at the top (cp. tab. 5, cols. 11, 23; tab. 6, cols. 16, 21, 48, 65, etc.); again, in ligature between other letters, the open curve is often flattened out to a wave in the cap of the preceding letter (e.g. *t*) (cp. tab. 6, cols. 18, 31, etc.).

Beside these forms, from about the middle of the fifth century on, occasional forms, especially those standing alone or last in a ligature, have finishing hook lengthened horizontally or obliquely, which gives the letter a new, broad appear-

ance (cp. tab. 5, cols. 18, 19, etc.; tab. 6, cols.<sup>1</sup> 9, 22, etc.). In the course of the sixth century, especially the latter half, the forms with closed curve, and especially those with long horizontal finish, grow more and more frequent until the narrower, open minuscule is in the minority. With these occur other forms, more frequently from about the beginning of the seventh century, in which there is a final curve upward and the letter resembles two contiguous *c*'s (cp. tab. 6, cols. 7, 13, 27, 67, 81, etc.). These forms bring us among the confusing early stages of the National hands.

*B* is quite contrary to *a* in its development, and cursive forms occur regularly in our earliest monuments. Its development from the two-bowed capital character to the single-bowed cursive was discussed in chapter II. The bow stands regularly at the left of the twisting stem, but occasionally, at the right (tab. 1, cols. 1, 3). In the papyri, from the middle of the first century on, there seem to be differences only of individual hands. The bow stands at the left always, where it may link with preceding letter, until the fourth century, when the other, single-stroke letter begins to displace it. *B* stands in ligature with following letter very rarely; to be noted are: no examples of its linking with following letter in tab. 1, two in no. 6, and none in the following until no. 21 (166 A.D.), where it links with following *a*, *b*, or *u*. There are similar scattered examples during the rest of the second, third, and fourth centuries. The more or less flourished curved or hooked stem continues regular throughout the second and third centuries. In no. 26 (194-196 A.D.) (tab. 3, cols. 23-25) it is elevated to a vertical position and bowed. Similarly no. 43 (293 A.D.) (tab. 4, col. 2) shows a folded stem. Looped, clubbed, and folded stems occur more frequently toward the middle of the fourth century (no. 56) and are regular thereafter.

In the fifth century and following, while the form with bow at right is the regular form, the other form, now also a single-stroke letter with looped or folded stem, persists, generally only in ligature with following letter. As before, the preceding letter links to the bow, the stem, to following letter, and thus we find examples until late in the sixth century (tab. 5, cols. 8, 12, 16, 18, etc.; tab. 6, cols. 2, 18, 31, 32, 68, etc.), after which, ligatures of *b* with following letter seem to be wanting. Beside the looped and folded stems, straight-

stem forms are occasional. The bow is, of course, either open or closed, and here, as in *a*, there is occasionally a certain flattening, broadening tendency; the upper part of the bow closes upon the lower instead of upon the stem (tab. 6, col. 4, etc.). In the sixth century this is carried further; the bow curves backward upon itself in smaller and smaller circles until it becomes, oftenest in the late sixth and the seventh centuries, an almost horizontal line with a tie or a short, separate-stroke vertical at its end (tab. 6, cols. 13, 14, 38, 39, 41, 62, 71, etc.).

C, although in its capital form a single-stroke letter, was more or less unwieldy for the stilus on account of its wide curve. We find it, accordingly, in our oldest monuments in a narrower, straighter form, sometimes little more curved than *i*. More often, however, it is made clear by prolonging the upper part of the curve in a flourish, while the lower part is omitted, or vice versa; or by flattening one of them to an oblique or horizontal line. The form with separate cap stroke begins to appear in our first papyri and is the regular form throughout the second and third centuries, although, throughout the period, examples may almost always be found of the single-stroke, simple-curve letter. In ligatures, which are fairly frequent already at the end of the first century, the separate-stroke cap forms the link to following letter, a hook generally at top of back, to preceding. As the letter comes more frequently into ligature with preceding letters, the position of the break in the curve varies from the top to the bottom: now giving a base stroke, which may be linked with preceding letter (tab. 3, col. 10), and a second curve representing the back and cap, which may link with following letter; now, if the preceding letter ends high in the line, giving the back and base in a single stroke with the final member of the preceding letter (tab. 2, cols. 7, 10, etc.), and a separate cap stroke to link with following letter; or, especially from about the beginning of the fourth century on, having the break somewhere about the middle of the back (tab. 4, cols. 7, 12, etc.) and ligature with following letter through either cap or base. Rarely, in the fifth and sixth centuries, a single-stroke letter has this same broken-back appearance, the two parts of the curve being joined at an angle or by a tie (tab. 5, cols. 7, 12, 13, etc.; tab. 6, col. 2, etc.), sometimes resembling our modern cursive



minuscule *e* (tab. 5, col. 25; tab. 6, cols. 18, 34, etc.) and comparable with forms of the Southern Italian Chancery hands<sup>101</sup> and of the Merovingian and Lombardic cursives. The upper curve of the broken-back forms, as of other contemporary forms, has often a finishing hook downward and inward, from the fourth century on (tab. 4, cols. 4, 13, etc.), sometimes, though rarely before the sixth century, in a more or less elaborate spiral, bow, or, toward the end of the period, loop (tab. 4, col. 21; tab. 5, col. 9; tab. 6, cols. 10, 12, 21, 35, 58, 63-66).

*D* develops similarly to *b*. The bow is slurred into an irregular curved line; the stem is shortened, then also curved. Thus the old bow becomes stem and the old stem becomes bow at left (tab. 1, col. 3, etc.). Constant confusion with *b* is avoided only by means of the slight hook to the right at top of stem while the stem of *b* hooks to the left. A joining of stem and bow in a single stroke gives the uncial letter or a similar form with slightly straighter stem, sometimes hooked right (tab. 1, cols. 3, 4; tab. 2, cols. 1-4). This single-stroke form begins to be common about the middle of the first century. Both forms occur side by side throughout the second and third centuries. Peculiar are some left-handed quasi uncials (nos. 8, 21; tab. 2, col. 11; tab. 3, col. 16). In ligature with preceding letter, the two-stroke form is generally used, the bow being hooked with the final stroke of the preceding letter. In the rare ligatures with following letters, the uncial is the easier form, the bow line being prolonged across the stem to form the link. In the latter part of the second century a quasi uncial form with tied stem (no. 21, etc.; tab. 3, cols. 14, 15, 27, etc.) appears not infrequently; here the tie links to following letter. These forms all occur, in ligature or standing alone, in the late second, and, occasionally, as late as the sixth century (tab. 6, cols. 12, 25, 37, etc.). At the end of the fourth century appear new forms with looped or double-looped stems, although the hooked or tied-stem uncial and even the two-stroke letter with simple stem are occasional throughout the period (cp. elaborate finishing hooks and ties in tab. 6, cols. 46, 48, 49, etc.). Folded stems are frequent in the sixth century. Also toward the middle of the sixth century occurs, as in *b*, the occasional flattening, broadening and squaring of the bow

<sup>101</sup> E.g. *Dipl. Cav.*, 2, 250.



(tab. 6, cols. 28, 59, 67, etc.). The single-stroke forms with erect, looped stems link the bow to preceding letter; rarely the extended loop of the stem forms the link to following letter (tab. 6, col. 11); the regular form, in the comparatively rare ligatures with following letter, is the uncial letter with straight stem, the bow crossing the stem to form the link. The last ligatures of *d* with a following letter are in no. 103 (552-575 A.D.).

E in our earliest, first century, monuments, shows forms very like the square capital. Differences are: the lateral compression; the carelessness in indicating cap, transverse, and base, and in attaching them to the back of the letter; the lessening of the number of strokes by joining, in a single curve, the base, back, and cap strokes, leaving the transverse to be placed at a second stroke, in various oblique and horizontal positions with respect to the curve (tab. 1, col. 2, etc.). Rare in the late first century and early second, and rather frequent from about the middle of the second century through the third, are forms in which the transverse springs from the bottom of the back, giving a single-stroke letter (tab. 2, cols. 12, 13, 19, etc.; tab. 3, col. 25). The wax tablets of both the first and the second century show, beside these forms, the more characteristic wax-tablet letter with two short, approximately vertical strokes.

The transverse, from the time of our earliest mss., forms a convenient link to a following letter. Ligatures with preceding letter are rare until about the middle of the second century. Through these a new two-stroke form arises, similar to that of *c*; the base, or the line representing back and base, is linked to preceding letter, while cap and transverse are often made in a single sharp curve, the transverse still forming the link to following letter (tab. 1, cols. 7, 9; tab. 2, cols. 4, 13, 16, etc.). Rarely before some time in the fourth century, but commonly afterwards, this break occurs at other points in the curve, giving a broken-back letter (tab. 2, col. 7, etc.; tab. 3, col. 22; tab. 4, cols. 1, 5, 7, 11, etc.). Toward the end of the fourth century, the upper part of the letter takes a new form; the curve representing the back and the cap bows, folds, or loops back, and the arm is attached to it at an angle or in a tie in much its old central position. Standing alone or first in a ligature are similar single-stroke letters with no break in the back (tab. 4, cols. 11, 17, etc.; tab. 5, cols. 5, 7, 10, 12, 22, etc.). These

two forms are common throughout the fifth and sixth centuries, standing alone and in ligature; the uncial letter is less frequent. About the middle of the sixth century some peculiar forms appear, which were later common in the National hands and in the Italian Chancery hands; the lower part of the letter is approximately a semicircle, the stroke beginning at either end, and is continued from either end into the curve representing the upper part of the back and the cap; this upper curve folds or loops back upon itself to join the transverse (cp. no. 93, c. 551 A.D., and tab. 6, cols. 43-45, 49, etc.). Other late, National-hand, forms are: the single-stroke broken-back letter (tab. 6, cols. 35, 55, etc.), forms lacking base (tab. 6, col. 71) and linked with preceding letter through bottom of back (tab. 6, cols. 60, 61), and ligatures with preceding letter through backward curve below base.

*F*, wanting in many of our monuments, has little to distinguish its various forms during the first three or four centuries. The rough disjointed capital letter of the graffiti and wax tablets gives place in the papyri of the middle of the first century to a more graceful letter with cap combined in double curve with stem, or in hook or angle with transverse (tab. 1, cols. 1, 4; tab. 2, cols. 4, 6, 14, 19). These are the regular forms throughout the second, third, and fourth centuries, although a flat or a separate-stroke cap is also frequent. In the wax tablets the letter is sometimes represented by a stem followed by a short curve or straight vertical line placed high in the line. The transverse forms a convenient link to a following letter (tab. 2, col. 15, etc.), but ligatures with a preceding letter are rare (tab. 2, cols. 10, 18). In the latter, the top of the stem is joined with the final stroke of preceding letter by hook (tab. 2, col. 9, etc.). Forms with other than simple stem are anomalous, as in no. 12 (tab. 2, cols. 16, 17), until the late fourth century (no. 59, 375-378 A.D.; tab. 4, col. 10); but the folded stem with bow at top, to which the transverse joins at an angle or in a tie, is characteristic of the letter throughout the greater part of the fifth, sixth, and seventh centuries. Looped stems are occasional from the late fifth century on. Examples of the modern cursive *f* are seen in two undated mss. (nos. 82, 121).

*G*, while showing some cursive tendency in the flourishing of the curve (tab. 1, col. 1, etc.), differs from the capital form principally in the relation of curve and transverse;

often the two are disconnected; again they are made at a single stroke, the transverse, variously, running to the right of the end of the curve, becoming a short tail drawn at an angle with curve, or joined to the curve in hook or tie (tabs. 1-2; Graff.). The uncial letter with long tail occurs occasionally. From about the middle of the first century come the first forms with flat, often separate-stroke, cap (tab. 2, col. 3, etc.; cp. the letter *c*). These are regular throughout the second and third centuries, while the other forms are not infrequent. About the middle of the second century occur forms in which the tail bends backward, giving a wide double curve, with or without a separate cap stroke (tab. 2, col. 16; tab. 3, cols. 2, 3, etc.). Ligatures of *g* are rare; the link is generally formed through the separate cap stroke (tab. 2, col. 4, etc.); only in isolated instances, through the tail (tab. 2, col. 18). *G* standing in ligature between two other letters occurs first in the late third century (no. 43; tab. 4, col. 4). The cap stroke becomes divided, the first part linking the preceding letter to the tail and the second part in a separate stroke springing from a point near top of tail or else topping the whole of the first stroke (tab. 4, cols. 9, 14, etc.). The shape of the tail changes at the same time and, instead of a double curve, sometimes resembles the two-curve letter (like figure 3) or is an oblique above a curve (tab. 5, cols. 1, 4, 9, etc.). These forms of the tail—narrow double curve, oblique over curve, or curve over curve—are general throughout the fifth and sixth centuries, the figure-3 shape—with cap broken, or topping or cutting the tail—being regular in ligature with preceding letter (tab. 5, cols. 17, 20, etc.; tab. 6, cols. 1-3, etc.). In the latter part of the sixth and in the seventh century, the upper curve of the tail is occasionally closed as in the characteristic letters of the Merovingian and Visigothic hands (tab. 6, cols. 30, 31, 45, 63, 81). Standing first in ligature the straight upper part of the tail is, during the sixth century, not infrequently linked to the cap by a curve (tab. 6, cols. 25, 29, etc.).

*H* is not one of the most frequent letters and so is slow in its development. In the graffiti and wax tablets of the first century a quasi minuscule letter appears; the upper half of the second stem has been lost and the lower half forms with the transverse an angle, or, more rarely, a curve. In the papyri of the first three centuries these generally angular forms are



regular, with various hook finishes (tabs. 1-3). Extraordinary is the occurrence of single-stroke forms in which transverse and second stem form a curve springing from tie with base of first stem (no. 6; tab. 2, col. 6). Ligatures, with a following letter, are rare (tab. 2, cols. 7, 13); here either the transverse is extended over the second stem to form the link, or a separate link stroke is added. A peculiar ligature is that of *hi* in no. 29 (tab. 3, col. 22), where *i* is indicated only by the prolonging of the second stem of *h*. In this same form the bow of stem and the curve springing from base of stem are to be noted (cp. also tab. 3, cols. 20, 21) as new in the third century. After the third, bowed, looped, folded, or, in the fifth century and after, double-looped stems, with curve springing from base of stem, are the regular forms. The hooks, folds, or loops form easy links to preceding letter; while ligature with following letter by final hook or separate link stroke (tab. 4, col. 13; tab. 5, col. 8) is rare.

*I* shows, throughout its history, a great variety of forms. In the first century the straight vertical stem becomes oblique, curved, hooked at either end and on either side, and is short or long, running above or below the line. This variety continues throughout the second and third centuries, although, by the latter part of the second century, the usual forms have the finishing hooks at top on the left, and at bottom, except when in ligature, on the right. The hook to the left links to a preceding letter and makes *i* one of the most frequent letters in ligature. Ligatures with following letter are rare (tab. 2, cols. 16, 24; tab. 3, l. *h*, col. 28; l. *g*, col. 26; tab. 6, cols. 51, 74, 76; l. *k*, col. 91). Forms in which the upper finishing hook becomes a tie are occasional in the latter part of the second century (tab. 2, l. *g*, col. 27) and thereafter. Bows and loops are occasional in the fourth century, and, in the latter part of that century, double loops occur. From the fourth century on, the letter shows more regularity. When it stands alone, the upper finishing hook is regularly on the left, the lower on the right, and the stem is generally short, or long above the line. In ligature with a preceding letter the upper hook or tie forms the link and the stem curves downward to the left, short or running below the line, sometimes finished by hook, left or right; or the final stroke of the preceding letter leads to a fold, loop, or double loop in the stem, above the line. In the



sixth and seventh centuries, these folded, looped, and double-looped forms frequently stand alone.

*K* occurs so rarely as to show no great change throughout our whole period. In the first century, a general cursive tendency is evident in the separation of the angle from the stem and in the shortening of the arms. Forms with curved and hooked stem and rounded angle are occasional at first; then, in the second century at least, regular (tabs. 2-6). The lower arm sometimes links to following *a* in the word *kal(endas)*, which is almost the only place where the letter is found (tab. 2, cols. 9, 10, etc.). In the late fifth century, we find a single cursive minuscule form consisting of hooked stem and an arm springing from base of stem and bowed backward upon itself to a central point from which the lower arm springs (tab. 5, col. 6). Another peculiar form has the letter divided in two, with upper part of stem and upper arm in one stroke, lower part of stem and lower arm in a second stroke. *C* is written for *k* in *kal.* in no. 103 (552-575 A.D.), which ms. also shows the last example of *k* in the period of Roman cursive.

*L*, like *e*, *f*, *m*, etc., shows, in the graffiti and wax tablets, a characteristic form consisting of two disconnected vertical strokes, the second short. Other forms show the base at various, rarely obtuse, angles with the stem; the angle is sometimes replaced by a curve and once by a tie. The stem is often bent or hooked at the top. The papyri of the first century show the simpler of these forms; the base is horizontal or hooks slightly upward from the base of the stem; the stem is sometimes bent or hooked. Fairly early in the second century, the base begins to curve downward instead of upward (no. 12; tab. 2, cols. 8, 11, etc.) and horizontal or upward curving bases are rare. The stem is regularly hooked left at top and joins the base in a curve, rarely in an angle or a tie. The hook of the stem occasionally serves to link to preceding letter; *i* is the only letter which, when following *l*, is adapted to ligature with the downward curving base. In the middle of the third century, horizontal bases again occur, which link more conveniently with following letter (tab. 3, col. 27). At the end of the fourth century the direction of the base stroke depends upon the position of the initial stroke of the following letter (tab. 4, cols. 4, 5, 10, etc.); and we find it a slight upward hook, which, with the looped stem appearing a little later (tab. 5, col. 16, etc.), makes the letter identical

with our modern cursive minuscule. The looped, clubbed, double-looped, or folded stem is regular in the fifth, sixth, and seventh centuries. In the fifth and the early sixth century, the increase of ligatures with following letters may be noticed. Various broken forms are occasional in the sixth and seventh centuries (tab. 6, cols. 21, 22, 26, 37, 41, 47, 49, 65, 71, 73, 74).

*M* appears in a characteristic form in the graffiti and wax tablets; the four stems are disconnected verticals, the initial one generally longest; the wax tablets of the second century have but three verticals. Occasional in these monuments and regular in the earliest papyri are angular capital forms; the stems are all oblique and each forms an acute angle with the next; they are not infrequently separate strokes, but often together form one broken line. Rapid writing rounded the two upper angles—occasionally the lower one also—giving two successive curves, needing only an inward bend to make the uncial letter. This angular or slightly rounded form is usual down to the early second century. The angular letters are occasionally linked to preceding letter (tab. 2, col. 5, etc.), rarely with following (tab. 1, col. 7; tab. 2, cols. 5, 15, etc.). Early in the second century, the rounded forms appear in ligature with preceding letter by means of a hook from base of first curve, which, with the compression of the middle angle till the second and third stems are sometimes almost coincident, approaches our modern, and the National-hand, three-stemmed minuscule *m* (no. 9, etc.; tab. 2, cols. 12, 17, 18). These quasi minuscule forms, the angular forms and forms with rounded angle, with occasionally a form resembling the Greek  $\mu$  (tab. 2, cols. 7-10, etc.), vary throughout the second and at least the first half of the third century. From the end of the third century on, the minuscule form is practically invariable, although ties between stems and more elaborate finishing lines, hooks, or bows are perhaps more frequent in the last century of the period. Very rarely the minuscule links with following letter through final hook at top (tab. 6, col. 28).

*N* shows, in the graffiti and wax tablets, the capital form with disjointed strokes; the greatest change is in the position of the oblique, which often runs above the first stem, strikes high on the second stem or becomes a transverse from top of first to top of second stem, occasionally meeting the latter in a curve (cp. also tab. 1, cols. 5, 9, 10; tab. 2, cols. 5, 6, etc.). In the earlier papyri, capital forms are regular. Here, how-

ever, the letter made in a single broken line of three strokes resembles the angular *m* which developed into the minuscule. These angular forms, made in one, two, or three strokes, are regular through the early part of the second century. A link attaching *n* to a preceding letter in no. 12 (tab. 2, col. 25) gives a form suggestive of the minuscule; but a new form, occurring along with the angular capital from about the middle of the second century until at least the middle of the third, tends rather away from the minuscule. In this form the transverse falls to a point low on the first stem and, as in the capital letter, meets the second stem at its base in an angle or, oftener, a curve (tab. 2, cols. 10-12, etc.); occasional forms have this curve springing from, or tied to, the base of first stem (tab. 2, cols. 16, 17, etc.). By the end of the third century, the minuscule letter has made its appearance, both in ligature and standing alone, and, beside occasional quasi capitals, is regular from that time on. There are more examples than in the case of *m* of ligature with following letter, through link stroke from base or top of second stem (tab. 6, cols. 17, 25, 29).

*O* maintains in general its more or less circular or oval form. Already in the earliest cursive, open forms are frequent. Characteristic of the wax tablets and very frequent in the graffiti is the two stroke letter, the two sides curved, first convexly, toward each other, then in the same direction, the second stroke curving out toward the initial stroke of a following letter, with which it sometimes links. Rare are forms in which the circle crosses upon itself, the tangents thus forming an angle above (tab. 2, col. 8), and forms in which only one side of the circle is prolonged at a tangent (tab. 1, col. 13). In the papyri from the middle of the first century on, the shape varies; the open or closed oval form is regular, but there are also examples of the two-stroke, generally convex, letter (tab. 2, cols. 4, 15-18) and of the complete circle with one or both sides prolonged at tangent (tab. 2, cols. 5, 7-9, 12, 22-25); ligature is by tangent or hook. In the course of the latter part of the second century, the two-stroke form becomes gradually less frequent, although instances of it are found throughout the period (tab. 3, cols. 8, 14, etc.; tab. 4, cols. 15, 16; tab. 5, col. 7, etc.; tab. 6, cols. 17, 45, etc., and, in ligature, cols. 22, 23, 25, etc.). The form with intersecting sides grows more and more frequent (tab. 3, cols. 17, 21, etc.;



tab. 4, cols. 18, 20; tab. 5, col. 8, etc.; tab. 6, cols. 5, 19, 20, etc.), with, from the fifth century on, occasional finishing hooks or loops (tab. 5, cols. 16, 17, 30; tab. 6, cols. 16, 18, 20, 61, 71, 84, 89, 90). In the sixth century the closed or open oval links through sharp angle or tie, like the modern cursive letter (tab. 6, cols. 15, 26, 32, etc.). Ties and hooks are likewise occasional when the letter stands alone (tab. 6, cols. 18, 64); tails in some of these forms make the letter resemble *u* (no. 110, 625 A.D.; tab. 6, cols. 82, 83, 88). Forms with separate link stroke belong to the latter part of the sixth century (tab. 6, cols. 57, 59).

*P*, like other bowed letters, begins in our first monuments to slur the bow into an open curve or even a straight line, which approaches or links to the initial stroke of following letter. Irregularly placed in the position of a cap, this stroke leads to confusion between *p* and *t*, or again, when the base of the stem is hooked to the right, as not infrequently, it might often be mistaken for *c*. Nos. 1-4 show this open arm form only. Other papyri, however, at the end of the century (no. 6) and the papyri of the early second century show again the more nearly closed bow, sometimes made in a single stroke with the stem. But the form with open bow still persists both in the rare ligatures of *p* with following letter and, sometimes, when standing alone, until about the middle of the third century (tab. 3, cols. 15-18, 27-30). Ligature with preceding letter is through top of stem (tab. 2, col. 28; tab. 3, col. 24) or, rarely, in a single-stroke form, through upper or lower side of bow (tab. 3, cols. 6, 24, 25); the stem is prolonged below the line, sometimes in the second and third centuries (tab. 3, cols. 5, 6, 12, etc.), regularly so from the fourth century on (tabs. 4-6). By the middle of the fifth century, ligature through upper side of bow is regular (no. 78; tab. 5, cols. 19, 20); and, soon after that, ligature also takes place through left hook of looped or clubbed stem (no. 79; tab. 5, cols. 24, 25). These ligatures and the looped, clubbed, or folded stems are characteristic of the letter in the sixth and seventh centuries. Two-stroke letters are rare, although, toward the close of the sixth century and in the seventh century, the simple stem again becomes frequent as it is in the National hands.

*Q*, like *o*, loses the regularity of its circle, and has it open at top or bottom, or made in two strokes, the second stroke including the tail. The tail is prolonged below the line obliquely



to the right and becomes the most prominent part of the letter. A finishing hook at end of tail is occasional. The circle, open at bottom or top, sometimes forms a single stroke with the tail (tabs. 1-2). In the second century, single-stroke forms with the circle closed or open at top bring the tail downward to the left in a double curve, or, less often, in a straight line (tab. 2, cols. 7-10). Both forms of tail are common at least until the latter part of the second century, after which time the tail is almost always oblique or curved left, sometimes hooked right. In the fifth century, the letter, beginning to occur more frequently in ligature with preceding letter, often has the curve slurred into a wide curve or a nearly straight line; this form is very frequent throughout the sixth century (tab. 5, cols. 12, 13; tab. 6, cols. 7, 13, 19, 69, etc.). Also in the sixth century occur some more elaborate forms, with finishing hooks on both curve and tail (tab. 6, cols. 5, 6, etc.), with a tie between curve and tail (tab. 6, cols. 21, 22, etc.), or with a small circle, the upper part of it sometimes extending over the tail (tab. 6, cols. 10, 12, 22, 26, etc.; cp. the National hands); the tail may be straight or curved, and hooked either side.

*R*, like other capital bowed letters, has, in its first cursive characters, the bow more or less slurred, with the tail, into a curved line, which overtops the stem like a cap stroke. The stem sometimes runs below the line and has a finishing hook, generally at left of base. Toward the end of the first century, stem and cap are occasionally combined in a single-stroke letter, which, standing alone or in ligature with following letter, is not infrequent throughout the second century (tab. 2, col. 5; tab. 3, cols. 5, 6, 27). The regular form, however, for the second and third century has the separate cap stroke. In ligatures, which are frequent, the stem is linked to preceding letter by hook, and the cap is prolonged to join the following (tab. 2, col. 9, etc.; tab. 3, col. 8, etc.). From about the middle of the second century on, the cap in ligature occasionally falls to the position of an arm, making a letter somewhat like our modern minuscule (tab. 2, col. 28; tab. 3, cols. 9, 20, etc.); it is rarely lowered so far as to spring from the base of the stem, in angle, tie, or loop, in a single-stroke form (tab. 2, col. 22; tab. 3, cols. 16, 21), but this form is not common until the end of the third and the fourth century (tab. 4, cols. 8-10, etc.). By the end of the fourth century, it is the regular form in ligatures. In the fifth century, the arm stroke

is curved at top into a nearly horizontal finish, bent in a short angle, or tied to form the link to following letter (tab. 5). These high shouldered forms, with horizontal, angular, or tied finish, grow more frequent in the course of the sixth century (tab. 6), until they are universal toward the end of this century and in the seventh century, as they are in the National hands.

*S*, one of the first letters to show a cursive tendency, has its double-curved capital form compressed, then flattened at the top, less often at the bottom, so as to be sometimes a broken line (tabs. 1-2). The flat cap, as early as the first century, is sometimes made in a separate stroke (tab. 1, cols. 9, 11; tab. 2, col. 5, etc.), often running upward in a flourish and not rarely falling to the position of an arm. This arm, as in *r*, is then rarely combined with stem, in fold or tie at base (tab. 1, cols. 7, 10; tab. 2, cols. 8, 12, 29); these forms are very frequent in the late second and in the third and fourth centuries, and regular thereafter. In the fourth century, the two-stroke letter and the older double-curved letter gradually disappear; occasionally a loop replaces the fold or tie at base of stem (tab. 3, col. 18; tab. 4, cols. 21-23, etc.; tab. 5, col. 5, etc.). Confusion with *r* is avoided by the downward finishing curve of the arm, corresponding to the generally horizontal, upward curving, or angular finish of *r*. This downward hook is prolonged to link with following letter, as the stem links, by hook at top, with preceding letter; in the sixth and seventh centuries ligatures are most frequent.

*T* shows cursive tendency in the curving and hooking of its cap and stem. Both strokes are variously straight or curved until about the end of the third century, although, after the middle of the second century, curved strokes are perhaps more frequent. The cap readily forms a link to following letter. Rarely the stem is linked at top to preceding letter, where the link is the left part of cap, and the right part of the cap is made with a separate stroke (tab. 2, cols. 21, 24; tab. 3, col. 14; tab. 4, cols. 5, 13, etc.; tab. 5, col. 29). In the fifth century, *t* frequently links with preceding letter; if the preceding letter ends low in the line, its final member is linked to the base of the stem of *t*, and the stem is then sometimes merely a slight upward curve, and the whole transverse is drawn above (tab. 5, cols. 7, 12, 19); if the preceding letter ends high in the line, it is prolonged downward to form the stem of *t*

and the transverse intersects it (tab. 5, cols. 27, 28). In the course of the sixth century, new ligature forms occur along with these: in one, the stroke begins at base of stem and, by curve at top of stem, joins the left end of the cap (tab. 6, cols. 8, 11, etc.); in another form the stroke begins at the top of the stem, hooks right from base, folds back to form the cap, then folds, loops, or double-loops again to the right to link with following letter (tab. 6, cols. 18, 32, 33, 48-50, 55, 56, 59, etc.). Also toward the middle of the sixth century, there first appears the low curving transverse, the finishing hook at its left end reaching very nearly, or, later, quite to the base of the stem, as in the Lombardic hand (tab. 6, cols. 7, 16, 17, 29, 31). These peculiar sixth-century ligature forms and forms with low curving cap are carried over into the seventh century and the National hands.

*U*, like *o*, is not difficult enough in cursive writing to call for any great change from its capital form; and we find its simple-curve form with shortened and often finished sides frequent until the fifth century; an angle, instead of curve, is also frequent. Regular in the wax tablets and graffiti is a two-stroke form resembling *e* and *o*, from which it is generally distinguished by the closeness of the two strokes at base; it is thus similar to the minuscule, except that it is written with two strokes. Certain forms in which the first stroke curves upward toward the top of the second seem already minuscule (tab. 1, cols. 6, 7; tab. 2, cols. 3, 7; tab. 3, cols. 4, 29). The minuscule is more frequent during the fourth century and general toward the end of the fifth century, when, however, there are still examples of the simple-curve form, here generally written above the line in more or less horizontal position (tab. 5, cols. 8, 12, 24, 28; tab. 6, cols. 7, 9, 14, 21, etc.). The simple-curve or angle form lends itself as readily as the minuscule to ligature with a preceding letter; it occurs also, less often, written above the line, in ligature with a following letter (tab. 2, cols. 18-20; tab. 3, cols. 4, 5, 16, 27; tab. 4, cols. 4, 5, 21, 29; tab. 5, cols. 10, 24; tab. 6, cols. 18, 24, etc.). The minuscule never links with following letter and it is sometimes this alone which distinguishes it from the minuscule *a*, especially when nearly closed at top, as often from the late fifth to the seventh century (tab. 5, l. *x*, cols. 27, 28; tab. 6, cols. 20, 52, 53).

In the development of *x*, there is little to be said. The



crossarms are, or generally one of the crossarms is, curved more or less elaborately and the forms of the middle of the first century are practically the forms of to-day. In its rare occurrences, one arm or the other is hooked to link with preceding or following letter. The sixth-century letter may be distinguished in some of its more elaborately hooked forms (tab. 6, cols. 3, 17, 21, 28, 33, 36, etc.) and in some single-stroke forms, where a loop represents the two right arms (tab. 6, cols. 10, 11).

Y, extremely rare in the Latin language, occurs occasionally in the graffiti and waxes and in the Greek names of our early papyri. A cursive letter is, however, developed; one side of the angle, generally the latter, is made in a single stroke with the tail (tab. 1), then the vertex of the angle disappears in the curving of the first side upward toward the top of the second, giving a curve followed by a tail as in our modern cursive minuscule. In the latter part of the second century, a single-stroke form occurs which resembles the Greek Υ, the first side of the angle being prolonged downward, returning upon itself, and branching out to form the latter side (tab. 3, cols. 3, 6-10); instead of this clubbing of the stem, a fold or tie is occasional. These are the regular forms in the later papyri.

Z is likewise rare, and, furthermore, in its broken-line capital form is already not ill adapted to cursive writing. And our only cursive features are the occasional elaborate curves and hooks of base and cap, especially in the sixth century (tab. 6, cols. 2, 5, 6, 10).



## APPENDIX I

### PAPYRI IN GREEK EXCEPT THE LATIN LETTERS IN SUBSCRIPTIONS

#### Berlin.

- Magirus, no. 2 (*Wiener Studien* 8, 1882, p. 94). Cp. Wessely, *ibid.*, p. 112; *ibid.*, 9, p. 247.  
P. 2245. Aet. Arab. Ed. Wilcken, B.G.U., 367.  
P. 2546. June 25, 615 A.D. *Ibid.*, 368.  
P. 2556. Aet. Arab. *Ibid.*, 371 (= Magirus, no. 1, pub. with facsimile). Cp. Wessely, *l.c.*, 8, p. 112.  
P. 2557. Aet. Byz. *Ibid.*, 310.  
P. 2560. Sept. 11, 553 A.D. *Ibid.*, 364.  
P. 2563. Aet. Byz. *Ibid.*, 308.  
P. 2566. Aet. Byz. *Ibid.*, 307.  
P. 1576. Aet. Byz. *Ibid.*, 315. Cp. *Id.*, *Tafeln*, no. XVIII.<sup>b</sup>  
P. 2585. Aet. Arab. *Ibid.*, 366.  
P. 2587. Aet. Byz. *Ibid.*, 740.  
P. 2617. Aet. Byz. *Ibid.*, 318.  
P. 6825. 605 A.D. *Ibid.*, 3.  
P. 8789. July 21, 615 A.D. Ed. Krebs, *ibid.*, 725.

#### Cairo (Grenfell and Hunt, *Catalogue*).

- P. 10018. 579 A.D. Pub. *Oxyrh. Pap.*, 135.  
P. 10034. 584 A.D. *Ibid.*, 137.  
P. 10049. 612 A.D. *Ibid.*, 139.  
P. 10053. 569 A.D. *Ibid.*, 134.  
P. 10056. 550 A.D. *Ibid.*, 133.  
P. 10057. 550 A.D. *Ibid.*, 140.  
P. 10085. 572 A.D. *Ibid.*, 126.  
P. 10100. 610-611 A.D. *Ibid.*, 138.  
P. 10103. 583 A.D. *Ibid.*, 136.

#### Norfolk (Amherst collection) P. 150. 592 A.D. Pub. *Amherst Papyri*, CL. (Cp. above, no. 107.)

#### London, British Museum.

- P. 113. 633 A.D. Wessely, in *Wiener Studien* 9, pp. 244-245.  
P. 728. 683 A.D. Grenfell and Hunt, *Greek Papyri*, ser. 2, no. C.  
P. . Wessely, in *Wiener Studien* 9, p. 246, no. 6.  
P. . 633 A.D. *Ibid.*, p. 246, no. 9.  
P. . *Ibid.*, no. 13.  
P. . *Ibid.*, p. 259.  
P. . *Ibid.*, pp. 266-271.

Marburg, Kalbfleisch collection.

P. 6. 525 A.D. *P. Iand.* 43.

P. 5. 582 A.D. *P. Iand.* 48 and tab. 10.

P. 164, c. 582 A.D. *P. Iand.* 48a and tab. 8.

Oxford, Bodleian ms. Gr. class. d 50(P). 6th or 7th cent. Pub.  
*Greek Pap.*, ser. 2, no. 103. Cp. Wessely, *Stud.* 8 (1908),  
no. 1138, p. 191.

Oxford, Bodl. ms. Gr. class. d 19(P). 6th cent. Cp. de Ricci,  
*Revue des Études Grecques* 15 (1902), pp. 432-433.

Oxford, Queen's College.

P. Oxyrh. 913. 442 A.D.

P. Oxyrh. 1038. 568 A.D.

P. Oxyrh. 1106.

P. Oxyrh. 1129.

P. Fayûm 38.

Paris, Louvre. Wessely, in *Wiener Studien* 8, p. 112; *Id.*,  
in *Rev. Egypt.* 1886, p. 161, no. XIV.

Wessely, *ll. cc.*, p. 112 and p. 161, no. IX resp.

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Paris, Musées Nationaux, nos.:

6592, App. 2. Wessely, in *Wiener Studien* 9, p. 246, no.  
7; *Id.*, in *Rev. Egypt.* 1886, no. X.

6846. Wessely, *ll. cc.*, no. 28 and no. XXXVI resp.; *Denkschr.*  
*Wien. Ak.* 37, 2, p. 127.

6907, App. 635. Wessely, *W.S.* 9, no. 20; *R.E.* 1886, no.  
XIV; *Denkschr.* 37, 2, p. 161.

Wessely, *ll. cc.*, no. 31 and no. XXXVII resp.

7022D, new no. 44. Wessely, in *Denkschr.* 37, 2, p. 122.

7044. *Id.*, *W.S.* 9, 246, no. 13.

7077, App. 523. *Id.*, *Denkschr.* 37, p. 157.

6448. *Id.*, *W.S.* 9, p. 246, no. 10.

6469. *Ibid.*, no. 11; *Id.*, *Denkschr.* 37, pp. 121-122.

6562 and 6706, App. 574. *Id.*, *W.S.* 9, no. 9; *Denkschr.* 37,  
2, p. 159.

6701, App. 664. *Id.*, *Denkschr.* 37, 2, p. 163.

6846, App. 440. *Id.*, *W.S.* 9, no. 17; *Denkschr.* 37, 2, p. 150.

6846, App. 595. *Id.*, *W.S.* 9, no. 5; *Denkschr.* 37, 2, p. 160.

6846, App. 187. *Id.*, *W.S.* 9, no. 22; *Denkschr.* 37,  
2, p. 140.

6846, 7, App. 56. *Id.*, *Denkschr.* 37, 2, p. 130.

6875b, App. 121. *Id.*, *W.S.* 9, no. 13.

6895, App. 495. *Id.*, *Denkschr.* 37, 2, pp. 153-154.

6908. 635 A.D. *Id.*, *W.S.* 9, no. 9.

6970, App. 467. *Id.*, *W.S.* 9, no. 9; *Denkschr.* 37, 2, pp.  
151-152.

6970, App. 468. *Id.*, *Denkschr.* 37, 2, p. 152.

7121, App. 686. *Id.*, *W.S.* 9, no. 7; *Denkschr.* 37, 2, p. 164.

7121, App. 693. *Id.*, *W.S.* 9, no. 20; *Denkschr.* 37, 2, p. 165.

7121, App. 694. *Id.*, *Denkschr.* 37, 2, p. 165.

- 7133b, App. 144. *Id.*, *Denkschr.* 37, 2, p. 137.  
 7331, App. 726. *Id.*, *W.S.* 9, no. 20; *Denkschr.* 37, 2, pp. 168-169.  
 7381, App. 784. *Id.*, *Denkschr.* 37, 2, p. 171.  
 7711, App. 392. *Id.*, *W.S.*, no. 1.  
 Vienna, Sammlung Rainer:  
   Wessely, in *Wiener Studien* 8, p. 112. 487 A.D.  
   *Id.*, *Prolegomena*, p. 2; *W.S.*, *l.c.*  
   *Id.*, *W.S.* 9, nos. 5, 6, 7, 9, 12, 13 (cp. *Prolegomena*, P. 1),  
     16, 18, 20, 21, 24, 25, 26, 27, 28, 29, 30, pp. 257-258.  
   Inv. Nr. 6068. 6th cent. Pub. Wessely, *Corpus Papyrorum*  
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   Egitto.  
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   61. 609 A.D. Pub. *ibid.*, no. 61.  
   63. 6th cent. Pub. *ibid.*, no. 63.  
   72. 6th cent. Pub. *ibid.*, no. 72.  
 Munich, kgl. Hof- und Staatsbibliothek P. 13, line 85. Pub.  
   Heisenberg and Wenger, I, no. 13. Cp. Wessely, in  
   *Wochenschrift für klassische Philologie* 1914, p. 969.

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- \*Zirardini.



### APPENDIX III

#### ABBREVIATIONS IN LATIN PAPYRI

BY DR. HENRY BARTLETT VAN HOESEN

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A LIST of abbreviations drawn up, incidentally to a study of Roman Cursive Writing, from such dated papyri as were accessible, offers a few points of interest in connection with the classification of abbreviations as by suspension or by contraction.<sup>1</sup>

Traube finds reasons for dating the contracted *nomina sacra* in the early fourth century,<sup>2</sup> the adjective *scs* in the fifth,<sup>3</sup> and other words of most frequent occurrence, especially in ecclesiastical or legal language, in the fifth and sixth centuries.<sup>4</sup>

The papyri extant from the first four centuries, conforming to Traube's observations, show abbreviation only by suspension<sup>5</sup> or sign.<sup>6</sup>

The final letter of the suspension is sometimes doubled,<sup>7</sup> generally to indicate plural.<sup>8</sup>

<sup>1</sup>Cp. Paoli, C., *Le abbreviature nella paleografia Latina del medio evo*; Cappelli, *Dizionario di abbreviature Latine ed Italiane*; Thompson, E. M., *Introduction to Greek and Latin palaeography*; esp. Traube, L., *Das Alter des Codex Romanus des Vergil* (in *Strena Helbigiana*, pp. 307-314); *Id.*, *Perrona Scottorum* (in *Stizungsber. d. philos. u. d. histor. Classe d. kgl. bayer. Akad. d. Wiss.* 1900, Heft 4, esp. p. 497 ff.); *Id.*, *Nomina Sacra*.

<sup>2</sup>*I.e.* before Jerome's Vulgate. Further, for the contractions XPS, DS, IHS, SPS, DMS, and DNS, inscriptions of the fourth and early fifth centuries (c. 366-423) may be cited—*Nomina Sacra*, p. 138.

<sup>3</sup>Cp. *CIL* VIII, 8634, A.D. 440.

<sup>4</sup>Cp. the *Notae Lugdunenses*, ed. Mommsen, Th., in *Notarum Laterculi*, in Keil's *Grammatici Latini*, IV.

<sup>5</sup>*E.g.* K(alendas), a(ssis), s(emis), and praenomina (in Wessely, *Schrifttafeln*, no 1; and *Oxyrhynchus Papyri*, no. 737; again, the suspension consisting of more than the one initial letter, Aug(ustas), serv(us), etc. (ll. cc.); or those lacking only the last syllable, chiefly case endings, *textor(es)* (*Oxyrh.* 1022), *dext(ra)*, *sinistr(o)* (*Oxyrh.* 1022), etc.

<sup>6</sup>*E.g.* 7 (centurio or centuria), θ (obiit) (Wessely, no. 8); III (trieris) (*B. M.* 229); ⚡ (denarius), ⚡ (in toto) (*B. M.* 1196).

<sup>7</sup>*E.g.* *eximm* (*eximagimifer*) (Berlin 7428).

<sup>8</sup>*E.g.* *dd nn* (*Oxyrh.* 720) and, curiously, *easdd kall* (Wessely, 17-18).

The earliest abbreviation by contraction is *spect* (*speculam?*) in a Vatican Papyrus (Marini, *I Papiri Diplomatici*, no. 73, A.D. 444), the earliest of the "Ravenna Papyri." Other contractions occur in the papyri more or less post-dating this:

*Xprm* (*decemprimus*), Naples (Marini, 83), A.D. 489.

*scae* (*sanctae*), in papyrus whose present location is unknown (Marini, 84), A.D. 491; similarly *sce*, Naples (Marini, 119), c. 551 A.D.; *sc*, Vatican (Marini, 75), A.D. 575; *sct*, *scta*, etc., Vatican (Marini, 87), A.D. 556-569; *sacta*, Ravenna (Marini, 95), A.D. 639.

*scl* (*scolaris*, *scholaris*), in papyrus of uncertain location (Marini, 84), A.D. 491; again, Florence (Marini, 138, 139), A.D. 510, and Ravenna (Marini, 95), A.D. 639.

*hd*, *hhdes*, *hhbus* (*heredem*, etc.), Vienna (Marini, 113), A.D. 504; also *hhbs*, B.M. add. ms. 5412, A.D. 572; and *hhdibus*, Vatican (Marini, 122), A.D. 591.

*pp* (properly a syllabic suspension for *perpetuus*), *ibid.*

*ql* (*quinquennalis*), Vatican papyri (Marini, 115, 116), A.D. 540; also the partially syllabic suspension *qq*, Vatican (Marini, 114), c. 546 A.D.

*sse* (*suprascripte* or *suprascriptae*), *ibid.*, A.D. 541; also *sso*, *ssti*, *sstam*, *sstorum*, *sstis*, Vatican (Marini, 114), c. 546 A.D. and *sstrum*, B. M. add. ms. 5412, A.D. 572.

*dl m* (*dolum malum*), Vatican (Marini, 114), c. 546 A.D.

*v strn* (*vir strenuus*), *ibid.*

*Ravs* (*Ravennatis*), Naples (Marini, 119), c. 551 A.D.; also *Ravtem*, Vatican (Marini, 75), A.D. 575.

*ms* (*meus*), Ravenna (Marini, 140), A.D. 557.

*comt* (*comitiacus*), Vatican (Marini, 79), A.D. 556-557; also *comtcus*, B. M. add. ms. 5412, A.D. 572.

*scrn* (*scriniarius*), Paris (Marini, 80), A.D. 565.

*supdta* (*supradicta*), *ibid.*

*monitr* (*monitarii*), B. M. add. ms. 5412, A.D. 572.

*scl* (*sacrarum largitionum?*), *ibid.*

*rg* (*rogatarius?*), Paris (Marini, 74), A.D. 552-575.

*clm* (*clamator?*), *ibid.*

*prb* (*praesbiter*), Monza, Cathedral (Marini, 143), c. 604 A.D.

*u ru* (*vir reverendus?*), Vatican (Marini, 94), A.D. 625.

*cann* (either contraction or pluralized suspension for *canonum*), Ravenna (Marini, 95), A.D. 639.

In the cases of many of these words, abbreviation by suspension persists:

cp. *prm* (*primus* or *primicerius*) and *prim*, Ravenna (Marini, 95), A.D. 639.

More common than *scl* is *scol* or *schol*, e.g. Ravenna (Marini, 95), A.D. 639.

Beside *hd* etc., cp. the pluralized suspension *hh*, e.g. Florence (Marini, 117), A.D. 541, and Vatican (Marini, 79), A.D. 556-557.

*v strn* is unusual; cp. *st*, e.g. Ravenna (Marini, 140), A.D.

557, and Paris (Marini, 74), A.D. 552-575, etc.

One example of *dl m* is balanced by *dol m*, Vatican and Padua (Marini, 123), c. 616-619 A.D.

*Ravs* and *Ravtem* are irregular beside *Rav*, Venice (Marini, 86), A.D. 553, and Ravenna (Marini, 95), A.D. 639 etc.

Contemporaneous with *comt* is *com*, Ravenna (Marini, 140), A.D. 557.

*scrn* and *scrin* occur together at a late date, Ravenna (Marini, 95), A.D. 639.

*prb* is probably only late; cp. *praesb*, Naples (Marini, 119), c. 551 A.D.

Further, certain other common contractions are conspicuously lacking:

*E.g.* *dominus noster* is abbreviated *d n*; cp. *dd nn* (*domini nostri*), Ravenna (Marini, 95), A.D. 639; similarly *eccl(esia)*, *ibid.*; *subd(iaconus)*, Vatican (Marini, 94), A.D. 625; *episc(opus)*, Paris (Marini, 74), A.D. 552-575; etc.

The brevity, then, of the list of the contractions used to the exclusion of suspensions and the exclusive use of suspension in abbreviating some of the words most frequently used, serve to illustrate the slowness with which the method of abbreviation by contraction made its way.

Similarly, abbreviation marks became specialized very slowly. The mark, when occurring in the earliest papyri, is a point,<sup>10</sup> sometimes an angle,<sup>11</sup> sometimes an overline,<sup>12</sup> which is, later, sometimes joined to final stroke in a hook.<sup>13</sup>

An oblique stroke across the final letter occurs first in the last of the fourth century<sup>14</sup> and, at about the same time, the sign 3, <sup>15</sup> which is more often attached to the last letter in a downward curve.<sup>16</sup>

From the fifth century on, all of these marks, except, possibly, the angle, are used; not yet with special significations, but, apparently, more according to the convenience of the writer,<sup>17</sup> the determining factors being, often, the positions of the final stroke of the abbreviation and the initial of the following word.

<sup>10</sup> *E.g.* *Oxyrh.* 1022 (A.D. 103), Berlin 7124 (A.D. 131), Berlin 7428 (A.D. 140), B. M. 229 (A.D. 166), *Oxyrh.* 1114 (A.D. 237), *Oxyrh.* 720 (A.D. 247), Wessely, 19 (A.D. 396).

<sup>11</sup> B. M. 229 (A.D. 166), B. M. 1196 (A.D. 176-186).

<sup>12</sup> B. M. 482 (A.D. 130), Berlin 7124 (A.D. 131), Wessely, 16 (A.D. 317), Leipzig 530 (A.D. 344?), Leipzig 65 (A.D. 390).

<sup>13</sup> Wessely, 17-18 (A.D. 398), Cairo 10482 (A.D. 403?).

<sup>14</sup> Leipzig 65 (A.D. 390), Wessely, 19 (A.D. 396), Wessely, 17-18 (A.D. 398), Wessely, 21 (c. A.D. 398), Cairo 10482 (A.D. 403?), Wessely, 26 (c. A.D. 436?).

<sup>15</sup> Wessely, 25 (A.D. 400?), Wessely, 26 (c. A.D. 436?), Wessely, 27 (A.D. 562).

<sup>16</sup> Wessely, 21 (c. A.D. 398), Marini, 117 (A.D. 541), etc.

<sup>17</sup> In addition to the mss. cited above, cp., *e.g.*, Vatican papyrus (Marini, 114, c. A.D. 546; Naples (Marini, 119, c. A.D. 551), etc.

## Table A

1842 1877a 2437 2450 4766-4773 5214 1552 1555

A A 1842 1877a 2437 2450 4766-4773 5214 1552 1555

B B 1842 1877a 2437 2450 4766-4773 5214 1552 1555

C C 1842 1877a 2437 2450 4766-4773 5214 1552 1555

D D 1842 1877a 2437 2450 4766-4773 5214 1552 1555

E E 1842 1877a 2437 2450 4766-4773 5214 1552 1555

F F 1842 1877a 2437 2450 4766-4773 5214 1552 1555

G G 1842 1877a 2437 2450 4766-4773 5214 1552 1555

H H 1842 1877a 2437 2450 4766-4773 5214 1552 1555

I I 1842 1877a 2437 2450 4766-4773 5214 1552 1555

J J 1842 1877a 2437 2450 4766-4773 5214 1552 1555

K K 1842 1877a 2437 2450 4766-4773 5214 1552 1555

L L 1842 1877a 2437 2450 4766-4773 5214 1552 1555

M M 1842 1877a 2437 2450 4766-4773 5214 1552 1555

N N 1842 1877a 2437 2450 4766-4773 5214 1552 1555

O O 1842 1877a 2437 2450 4766-4773 5214 1552 1555

P P 1842 1877a 2437 2450 4766-4773 5214 1552 1555

Q Q 1842 1877a 2437 2450 4766-4773 5214 1552 1555

R R 1842 1877a 2437 2450 4766-4773 5214 1552 1555

S S 1842 1877a 2437 2450 4766-4773 5214 1552 1555

T T 1842 1877a 2437 2450 4766-4773 5214 1552 1555

V V 1842 1877a 2437 2450 4766-4773 5214 1552 1555

X X 1842 1877a 2437 2450 4766-4773 5214 1552 1555

Y Y 1842 1877a 2437 2450 4766-4773 5214 1552 1555

Z Z 1842 1877a 2437 2450 4766-4773 5214 1552 1555

Amn in JF in 6000



Table B

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z	B a b c d e f g h i j k l m n o p q r s t u v w x y z
( C C C C	c c ( C C C
ם ד ם ד ם ד	ם ד ם ד ם ד
u	u u u u u u u u
l p	l p
G	c c G G G
H H H	H H H
I I I	I I I
L L L L	L L L L
A A A A A A A A A A A A A A A A A A	A A A A A A A A A A A A A A A A A A
N N	N A A A A A A
O O O O O	O A A A A A A
P P	P P P
Q Q Q	Q Q Q Q Q Q Q Q
R R R R R	R R R R R R R R (72)
S S S S S	S S S S S S S S
T T T T	T T T T
U U U U U	U U U U U U
	X X X X
Y	

### Table C

Handwritten musical notation on a page from a manuscript. The notation consists of various symbols, some resembling letters or numbers, arranged in rows. Above many of these symbols are small superscripted numbers, likely indicating pitch or scale degrees. The symbols include:

- Single notes: e.g.,  $\lambda$ ,  $\alpha$ ,  $\epsilon$ ,  $\delta$ ,  $\gamma$ ,  $\beta$ ,  $\alpha$ ,  $\eta$ ,  $\mu$ ,  $\nu$ ,  $\xi$ ,  $\zeta$ ,  $\eta$ ,  $\theta$ ,  $\iota$ ,  $\kappa$ ,  $\lambda$ ,  $\mu$ ,  $\nu$ ,  $\xi$ ,  $\zeta$ ,  $\eta$ ,  $\theta$ ,  $\iota$ ,  $\kappa$ .
- Pairs of notes: e.g.,  $\lambda\lambda$ ,  $\alpha\alpha$ ,  $\epsilon\epsilon$ ,  $\delta\delta$ ,  $\gamma\gamma$ ,  $\beta\beta$ ,  $\alpha\alpha$ ,  $\eta\eta$ ,  $\mu\mu$ ,  $\nu\nu$ ,  $\xi\xi$ ,  $\zeta\zeta$ ,  $\eta\eta$ ,  $\theta\theta$ ,  $\iota\iota$ ,  $\kappa\kappa$ ,  $\lambda\lambda$ ,  $\mu\mu$ ,  $\nu\nu$ ,  $\xi\xi$ ,  $\zeta\zeta$ ,  $\eta\eta$ ,  $\theta\theta$ ,  $\iota\iota$ ,  $\kappa\kappa$ .
- Triads: e.g.,  $\lambda\lambda\lambda$ ,  $\alpha\alpha\alpha$ ,  $\epsilon\epsilon\epsilon$ ,  $\delta\delta\delta$ ,  $\gamma\gamma\gamma$ ,  $\beta\beta\beta$ ,  $\alpha\alpha\alpha$ ,  $\eta\eta\eta$ ,  $\mu\mu\mu$ ,  $\nu\nu\nu$ ,  $\xi\xi\xi$ ,  $\zeta\zeta\zeta$ ,  $\eta\eta\eta$ ,  $\theta\theta\theta$ ,  $\iota\iota\iota$ ,  $\kappa\kappa\kappa$ ,  $\lambda\lambda\lambda$ ,  $\mu\mu\mu$ ,  $\nu\nu\nu$ ,  $\xi\xi\xi$ ,  $\zeta\zeta\zeta$ ,  $\eta\eta\eta$ ,  $\theta\theta\theta$ ,  $\iota\iota\iota$ ,  $\kappa\kappa\kappa$ .

The page is numbered "107" at the top right.







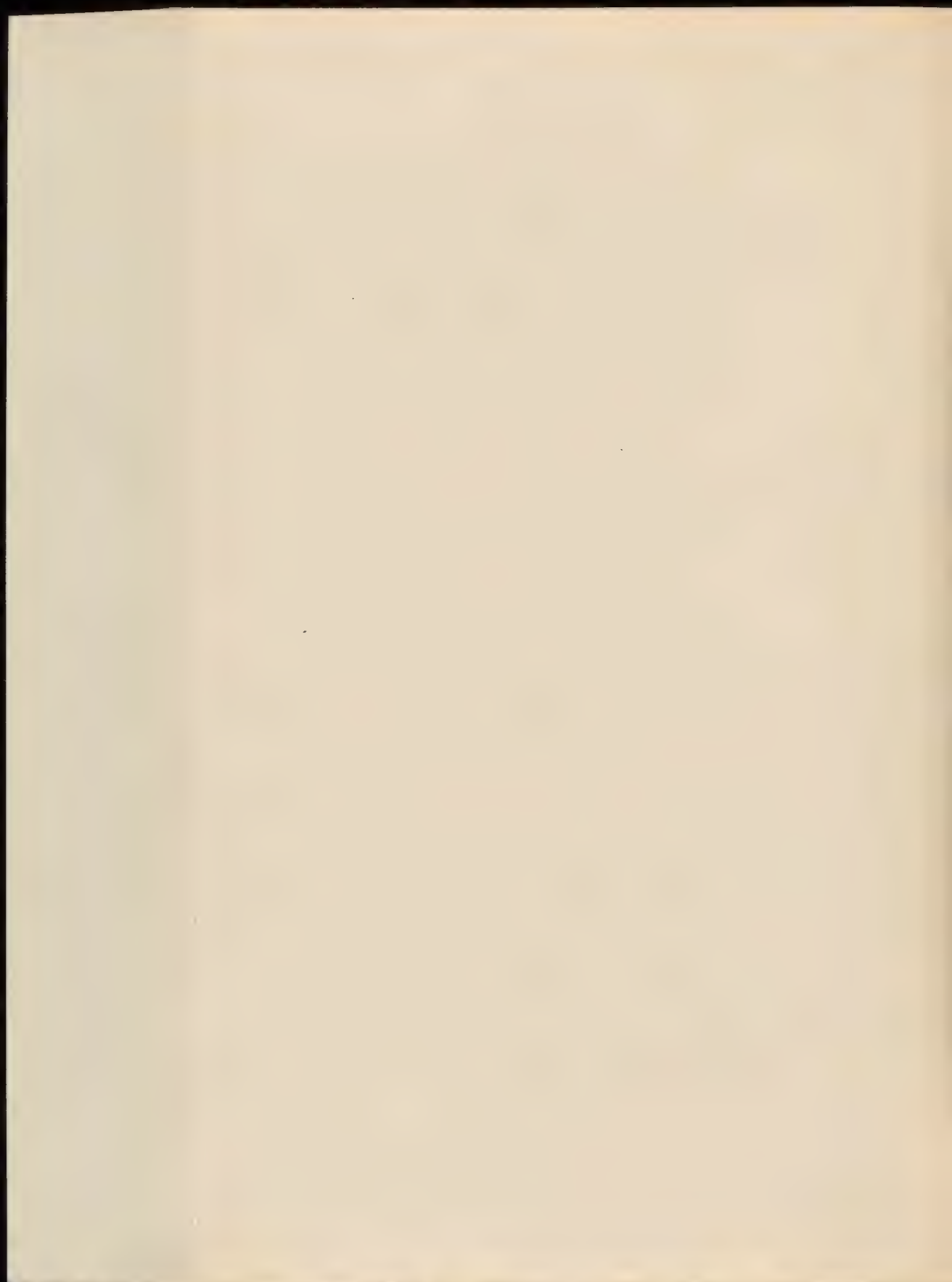


Table 2

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
a	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā	ā
c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c	c
d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d	d
e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e	e
f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f	f
g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g	g
h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h	h
i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i	i
k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k	k
l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l
m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m	m
n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o	o
p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p	p
q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q	q
r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r	r
s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t	t
u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u	u
x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y	y

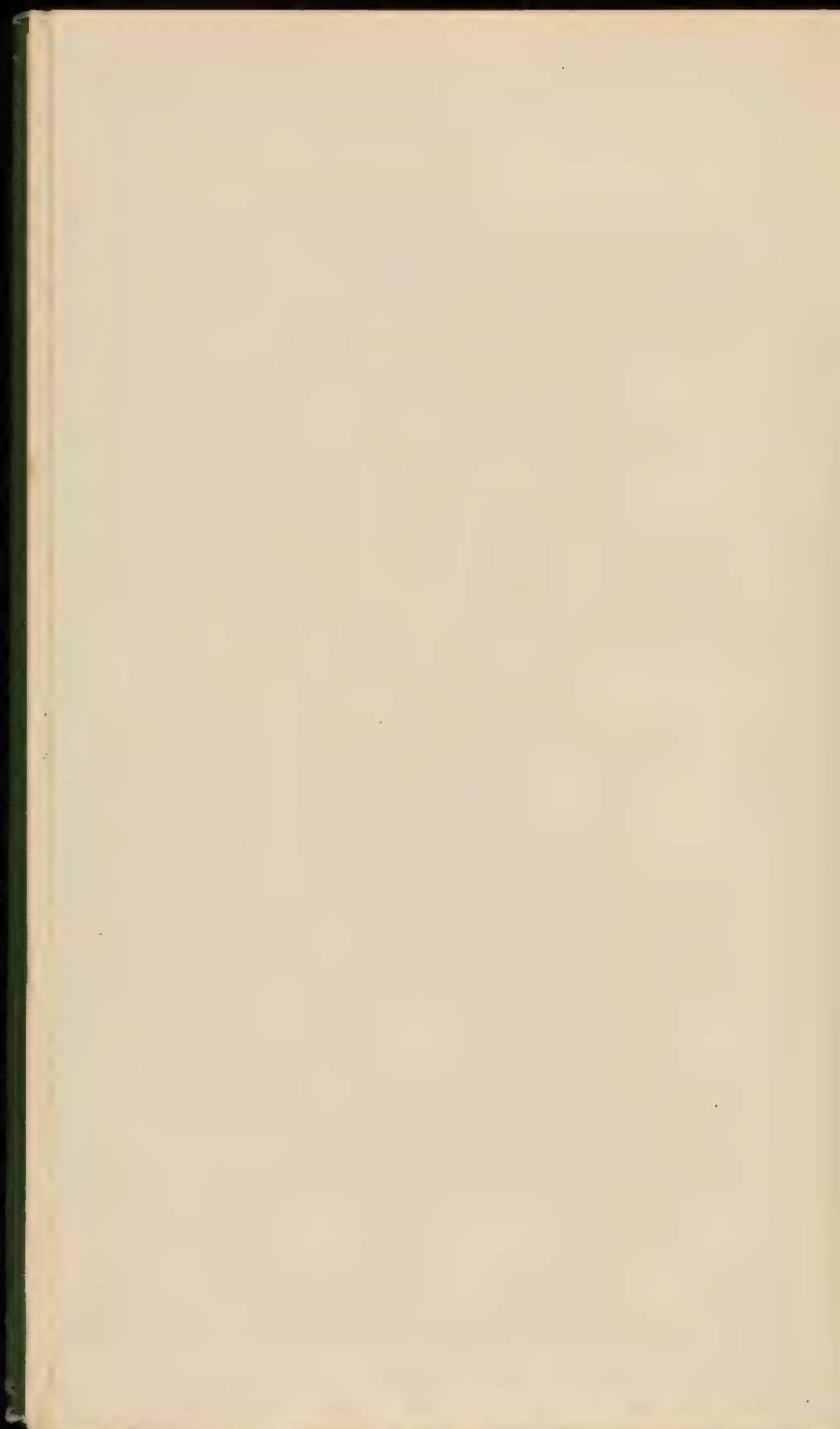


Table 3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
a	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
b	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
c	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
d	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
e	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
f	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
g	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
h	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
i	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
k	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
l	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
m	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
n	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
o	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
p	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
q	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
r	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
s	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	3





Table 4

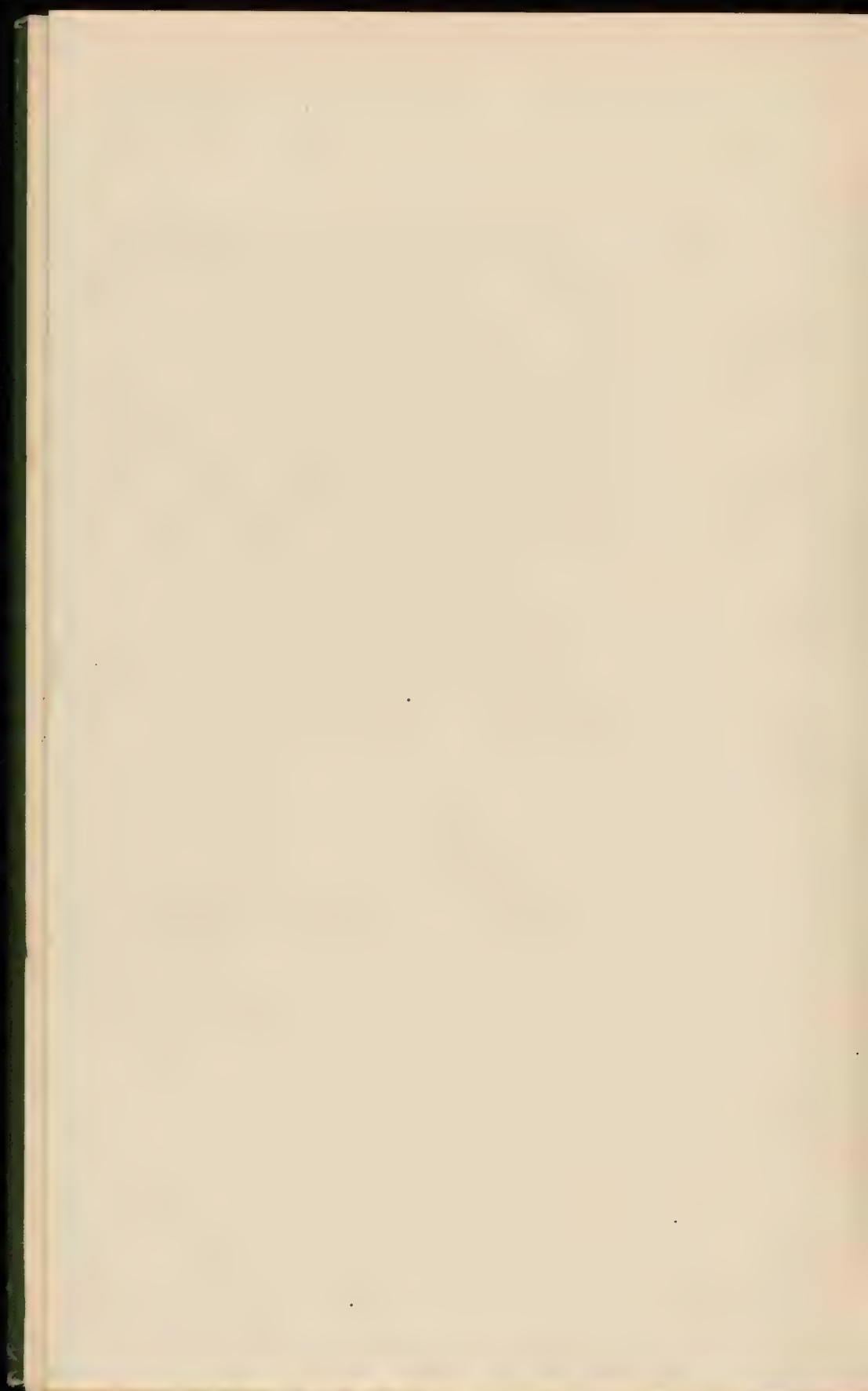
Handwritten practice sheet for the Hindi alphabet, showing the Devanagari characters and their corresponding phonetic symbols in parentheses. The characters are arranged in rows, with some characters having multiple variations or accents. The phonetic symbols are written in parentheses next to the characters. The sheet includes characters from 'अ' (A) to 'य' (Ya).



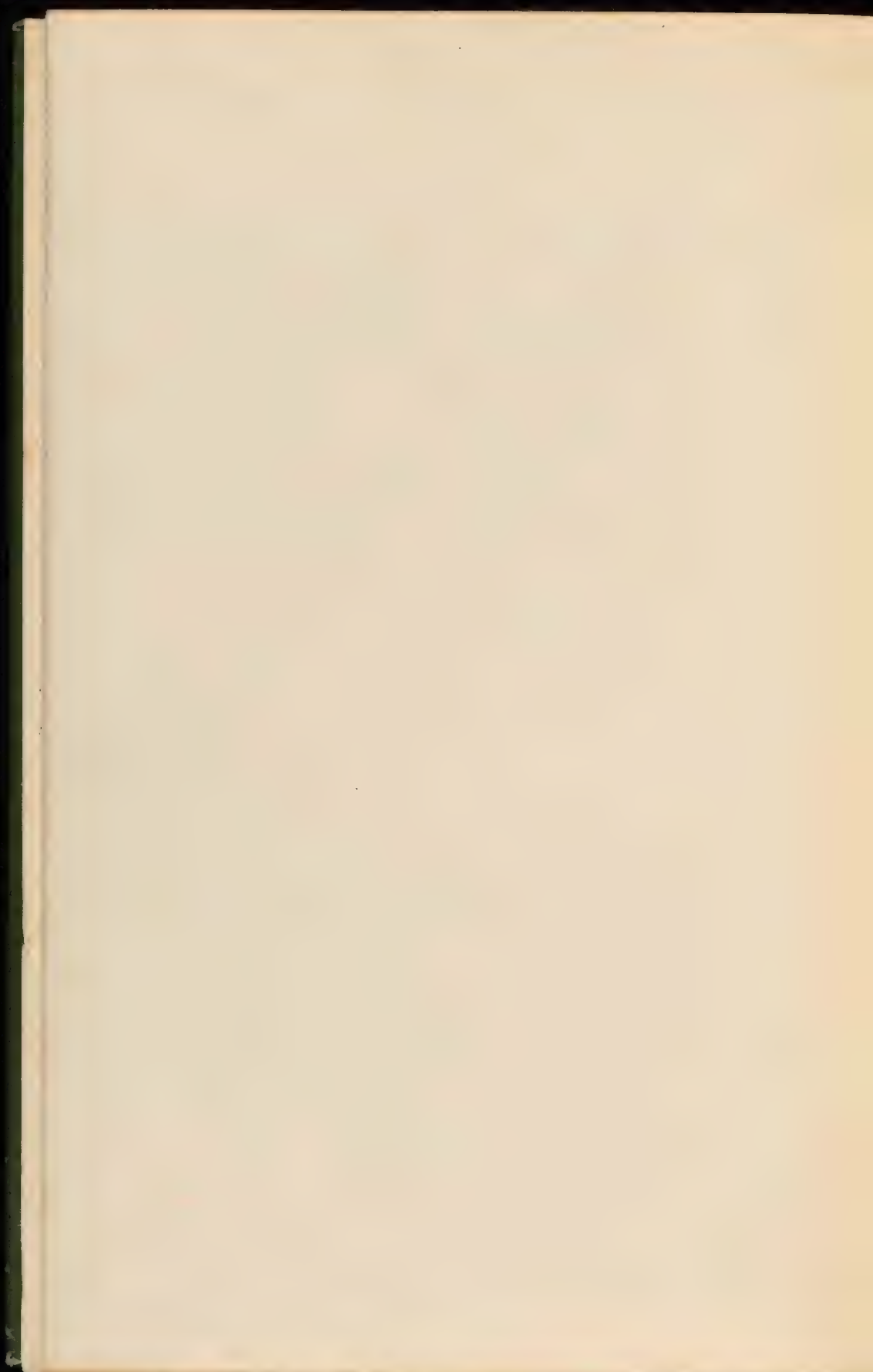
Table 5

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
a	α	(α)	(α)	(α)	α	(α)	(α)	(α)	(α)	(α)	(α)	(α)	(α)	(α)	α	α	(α)	(α)	(α)	(α)	α	(α)	(α)	(α)	(α)	(α)	(α)	(α)	(α)	(α)
b	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β	β
c	γ	(γ)	γ	(γ)	γ	(γ)	γ	(γ)	γ	(γ)	γ	(γ)	γ	(γ)	γ	γ	(γ)	γ	(γ)	γ	(γ)	γ	(γ)	γ	(γ)	γ	(γ)	γ	(γ)	γ
d	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ	δ
e	ε	(ε)	(ε)	(ε)	ε	(ε)	(ε)	(ε)	(ε)	(ε)	(ε)	(ε)	(ε)	(ε)	ε	ε	(ε)	(ε)	(ε)	(ε)	ε	(ε)	(ε)	(ε)	(ε)	(ε)	(ε)	(ε)	(ε)	(ε)
f	φ	(φ)	(φ)	(φ)	φ	(φ)	(φ)	(φ)	(φ)	(φ)	(φ)	(φ)	(φ)	(φ)	φ	φ	(φ)	(φ)	(φ)	(φ)	φ	(φ)	(φ)	(φ)	(φ)	(φ)	(φ)	(φ)	(φ)	(φ)
g	ζ	(ζ)	(ζ)	(ζ)	ζ	(ζ)	(ζ)	(ζ)	(ζ)	(ζ)	(ζ)	(ζ)	(ζ)	(ζ)	ζ	ζ	(ζ)	(ζ)	(ζ)	(ζ)	ζ	(ζ)	(ζ)	(ζ)	(ζ)	(ζ)	(ζ)	(ζ)	(ζ)	(ζ)
h	η	(η)	(η)	(η)	η	(η)	(η)	(η)	(η)	(η)	(η)	(η)	(η)	(η)	η	η	(η)	(η)	(η)	(η)	η	(η)	(η)	(η)	(η)	(η)	(η)	(η)	(η)	(η)
i	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι	ι
k	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ	κ
l	λ	(λ)	(λ)	(λ)	λ	(λ)	(λ)	(λ)	(λ)	(λ)	(λ)	(λ)	(λ)	(λ)	λ	λ	(λ)	(λ)	(λ)	(λ)	λ	(λ)	(λ)	(λ)	(λ)	(λ)	(λ)	(λ)	(λ)	(λ)
m	μ	(μ)	(μ)	(μ)	μ	(μ)	(μ)	(μ)	(μ)	(μ)	(μ)	(μ)	(μ)	(μ)	μ	μ	(μ)	(μ)	(μ)	(μ)	μ	(μ)	(μ)	(μ)	(μ)	(μ)	(μ)	(μ)	(μ)	(μ)
n	ν	(ν)	(ν)	(ν)	ν	(ν)	(ν)	(ν)	(ν)	(ν)	(ν)	(ν)	(ν)	(ν)	ν	ν	(ν)	(ν)	(ν)	(ν)	ν	(ν)	(ν)	(ν)	(ν)	(ν)	(ν)	(ν)	(ν)	(ν)
o	ο	(ο)	(ο)	(ο)	ο	(ο)	(ο)	(ο)	(ο)	(ο)	(ο)	(ο)	(ο)	(ο)	ο	ο	(ο)	(ο)	(ο)	(ο)	ο	(ο)	(ο)	(ο)	(ο)	(ο)	(ο)	(ο)	(ο)	(ο)
p	ρ	(ρ)	(ρ)	(ρ)	ρ	(ρ)	(ρ)	(ρ)	(ρ)	(ρ)	(ρ)	(ρ)	(ρ)	(ρ)	ρ	ρ	(ρ)	(ρ)	(ρ)	(ρ)	ρ	(ρ)	(ρ)	(ρ)	(ρ)	(ρ)	(ρ)	(ρ)	(ρ)	(ρ)
q	σ	(σ)	(σ)	(σ)	σ	(σ)	(σ)	(σ)	(σ)	(σ)	(σ)	(σ)	(σ)	(σ)	σ	σ	(σ)	(σ)	(σ)	(σ)	σ	(σ)	(σ)	(σ)	(σ)	(σ)	(σ)	(σ)	(σ)	(σ)
r	τ	(τ)	(τ)	(τ)	τ	(τ)	(τ)	(τ)	(τ)	(τ)	(τ)	(τ)	(τ)	(τ)	τ	τ	(τ)	(τ)	(τ)	(τ)	τ	(τ)	(τ)	(τ)	(τ)	(τ)	(τ)	(τ)	(τ)	(τ)
s	υ	(υ)	(υ)	(υ)	υ	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	υ	υ	(υ)	(υ)	(υ)	(υ)	υ	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)
t	ϕ	(ϕ)	(ϕ)	(ϕ)	ϕ	(ϕ)	(ϕ)	(ϕ)	(ϕ)	(ϕ)	(ϕ)	(ϕ)	(ϕ)	(ϕ)	ϕ	ϕ	(ϕ)	(ϕ)	(ϕ)	(ϕ)	ϕ	(ϕ)	(ϕ)	(ϕ)	(ϕ)	(ϕ)	(ϕ)	(ϕ)	(ϕ)	(ϕ)
u	υ	(υ)	(υ)	(υ)	υ	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	υ	υ	(υ)	(υ)	(υ)	(υ)	υ	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)	(υ)
x	χ	(χ)	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ	χ
y	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ	ψ
z	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ	ζ













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